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ABSTRACT

From information obtained through published reports, questionnaires, and on-site visitations with staff in Louisiana plus four southern and two midwestern states, an examination was made of Louisiana's present programs in vocational and technical training areas. This report presents the findings of the examination, notes weaknesses, and offers recommendations for solving the deficiencies. Information contained in the report includes: (1) a definition of vocational-technical education and the need to change public attitudes, (2) a discussion of the impact of federal legislation on vocational-technical education and methods of obtaining occupational training, such as public institutions, manpower programs, and private schools, (3) the results of a servey of Louisiana's career education and vocational-technical education programs, (4) a discussion of industry expansion and manpower demand expected in Louisiana between 1970 and 1980, and (5) recommendations to correct present weaknesses and deficiencies in Louisiana's vocational-technical programs. (SB)

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Preface

This study, *Meeting Louisiana's Need for Career and Vocational-Technical Education*, examines Louisiana's present programs in vocational and technical training areas, notes weaknesses and offers recommendations for solving the deficiencies. However, the scope of this study goes beyond that.

A new and vital dimension of education is emerging, called "career education." This concept entails a refocusing of the entire educational system, from kindergarten through postsecondary and adult education. Career education is not another name for vocational-technical education; it cannot be achieved by adding a few new courses or schools. Rather, its implementation will require involvement by every level and facet of education in Louisiana as well as by industry, business, labor and the general public.

The recommendations contained in this study are numerous and complex, but so are the problems. Solutions cannot be achieved suddenly, but the problems did not emerge suddenly, either. The efforts as well as money needed will be sizable, but the need is sizable also. The return on the investment is difficult to pinpoint, but it is certain that money and effort spent on training people for jobs will produce dividends many times greater than the investment, it will mean fewer dependent on welfare and public health services and less spent on unemployment benefits and crime. The state and local governments should also benefit from increased revenues from more productive citizens and an accelerated business and industrial activity.

Information contained in this study was provided through the cooperation of persons too numerous to list. Advice was obtained from knowledgeable persons in Louisiana as well as in other states. Information was sought on operations in other states through published reports as well as a detailed questionnaire. To obtain indepth information, the PAR staff visited Georgia, North Carolina, Ohio, South Carolina, Tennessee and Wisconsin, as well as the U. S. Office of Education.

Questionnaires and interviews were used extensively to obtain data and insight on various levels and types of vocational-technical education programs within Louisiana. Grateful acknowledgement is made to the staff of the Louisiana State Department of Education; the superintendents of local school systems; the directors and staff of the vocational-technical schools; staff of the institutions of higher education; owners of private and proprietary vocational-technical schools; the director of the State Apprenticeship Council; personnel involved in federal manpower programs; representatives of business and industry; personnel in the Louisiana Department of Employment Security; staff of the Louisiana Coordinating Council for Higher Education; and the Joint Legislative Committee for Higher Education.

Partial financing of this study was obtained through a grant to the Louisiana Higher Education Facilities Commission from the U. S. Office of Education. However, opinions expressed in this study do not necessarily reflect the position or policy of the Louisiana Higher Education Facilities Commission nor of the U. S. Office of Education, and no official endorsement by these agencies should be inferred.

While many persons and agencies provided information and other valuable assistance, the compilation and presentation of data, conclusions and recommendations are solely the responsibility of the Public Affairs Research Council.

A number of persons on PAR's staff participated in various aspects of this study. However, members of the PAR staff who had primary responsibility for the research and preparation of this report were Emogene Pliner, director of state studies; Sylvia McCracken Kidder, research analyst; Ty Keller, research associate; and Reilly Stonecipher, research analyst.

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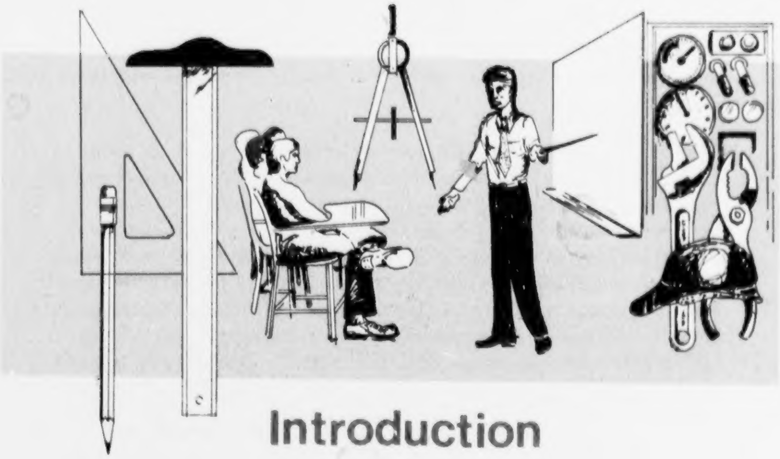


Introduction

Quality education to meet the needs of all persons is perhaps the most critical issue in Louisiana today. Few would disagree that Louisiana's educational system needs drastic changes aimed at retaining more youth in school and making them socially and financially independent. In order to achieve these goals, many persons are now advocating that greater emphasis be placed on vocational-technical education. In fact, the Governor, State Superintendent of Education and many legislators during their campaigns supported the expansion of vocational-technical education.

While citizens and public officials alike are concerned about Louisiana's educational programs, few seem to have definite answers. In an effort to identify problems and find solutions to meet the educational needs of the majority of Louisiana's youth and adults as well, PAR has undertaken this study, *Meeting Louisiana's Need for Career and Vocational-Technical Education.*

WHAT IS VOCATIONAL-TECHNICAL EDUCATION?

Programs to prepare one for life through education and training have undergone a number of changes in terminology. The terms used to describe formal programs to prepare one for a career have included, among others, "occupational education," "trade education," "vocational education," and "vocational-technical education." Today the U. S. Office of Education is urging the adoption of "career education."

According to federal law, the term "vocational education" means:

> Vocational or technical training or retraining which is given in schools or classes (including field or laboratory work and remedial or related academic and technical instruction incident thereto) . . . conducted as part of a program designed to prepare individuals for gainful employment as semiskilled or skilled workers or technicians or subprofessionals in recognized occupations and in new and emerging occupations or to prepare individuals for enrollment in advanced technical education programs, but excluding any program to prepare individuals for employment in occupations . . . generally considered professional or which requires a baccaluareate or higher degree. . . ."[1]

"Vocational" or "vocational-technical" education encompasses a wide variety of categories, some of which do not offer training directed toward earning a living while others provide skill training in critical areas. For example, vocational education includes home economics for homemakers who will not be wage earners but who are learning to cook and sew. It includes agriculture even though our society is becoming increasingly urban and few probably intend to pursue farming as a lifetime occupation. Office occupations is another category, even though many of the high school enrollees in typing and shorthand classes may be more interested in acquiring skills for personal reasons than for use in the business world.

Distributive education, to teach one of the skills needed in retailing and merchandising, is still another category. There are also critically important fields such as health, trade and industrial occupations, and the more sophisticated levels of technical and paraprofessional training.

"Career education" is a much broader approach which includes everyone, not only those interested in vocational-technical education. It has been called a concept in search of a definition; one definition adopted by the Louisiana Task Force on Career Education is:

> The total effort of public education and the community aimed at helping all individuals to become familiar with the values of a work-oriented society, to integrate these values into their personal value systems, and to implement these values in their lives in such a way that work becomes possible, meaningful, and satisfying to each individual.[2]

NEED FOR CHANGE IN ATTITUDE

The National Advisory Council on Vocational Education, in its first report of July 15, 1969, criticized the national attitude toward vocational education:

> At the very heart of our problem is a national attitude that says vocational education is designed for somebody else's children. This attitude is shared by businessmen, labor leaders, administrators, teachers, parents, students. We are all guilty. We have promoted the idea that the only good education is an education capped by four years of college. This idea, transmitted by our values, our aspirations and our silent support, is snobbish, undemocratic, and a revelation of why schools fail so many students. . . .[3]

The council noted that this attitude prevails in the federal government which invests $14 in the nation's universities for every $1 invested in vocational education programs, and the same pattern is evident in state governments and local school districts.

> The attitude must change. The number of jobs which the unskilled can fill is declining rapidly. The number requiring a liberal arts college education, while growing, is increasing far less rapidly than the number demanding a technical skill. In the 1980s it will still be true that fewer than 20 percent of our job opportunities will require a four-year college degree.[4]

Some argue that it is not the attitude of youth that needs changing, but that it is the attitude of parents since the aspirations of parents are not necessarily those of their children. If vocational-technical education is to assume a larger role in the educational system, this apparent conflict between parents and children must be resolved. Legislation cannot achieve this; views have to be changed.

Attitudes do appear to be changing today, as noted by the National School Public Relations Association in a 1971 report:

> Not long ago, if you wanted to visit the vocational education classes in a typical American secondary school, you could save some steps by heading directly for the basement. There, in dingy surroundings a few steps away from the school's boiler room, you'd find a man identified by his fellow faculty members as 'the shop teacher' struggling to inspire a group of young men to construct things out of wood and metal with hand tools or antiquated power equipment. The students in those basement rooms, inevitably, consisted of the boys rejected from the academic classrooms upstairs as either an uncontrollable discipline problem or a nonlearner.
>
> Literally, as well as figuratively, 'Voc Ed' classes were something you went down to. . . .

> There are still too many places where these attitudes and conditions exist; but things are changing fairly rapidly. The educational institution that isn't doing some exciting new things in vocational education, or at least planning for them, is out of step. The school system that isn't thinking of vocational education as something that is part of its program from kindergarten through postsecondary years is headed for a traumatic future.[5]

LOUISIANA'S PROBLEM

The need to restructure and change emphasis in Louisiana's educational system seems to be more acute than in most states. As has been quoted so often, in Louisiana only 13 percent of those entering the first grade finish college, despite the fact that the primary emphasis of the education system is toward the college bound. Of every 100 children entering the first grade, 45 drop out before they graduate from high school. Of the 55 who do graduate from high school, 40 go to college, but half of these leave during their freshman year. There are few alternatives in Louisiana for youth who lack the ability or desire to go to college.

Louisiana's record on high school dropouts is worse than almost all other states. The National Education Association ranked states on the basis of ninth graders (fall of 1967) who graduated from high school 4 years later (in 1970-71).[6] On this basis, Louisiana ranked almost at the bottom—47th. Only two thirds (66.9 percent) of the ninth graders stayed to graduate from high school in Louisiana compared to a national average of 78.7 percent. Four states had a record of 90 percent or better.

Another means of evaluating a state's educational system is the educational attainment of its citizens. Louisiana ranked 50th among the states in the proportion of its adult population which was functionally illiterate, that is, those with less than 5 years of schooling according to 1960 census data.[7] Interstate comparisons based on 1970 census data on educational attainment are not yet available. However, 1970 educational data for Louisiana and the U. S. is available which does indicate considerable progress within the state during the past decade. (See Table 1.)

The low educational attainment of Louisiana's citizens is reflected in their personal income. Among the 50 states, Louisiana ranked 46th in per capita personal income in 1971 despite its wealth of natural resources.[8] While the southern states are the fastest growing area of the country in terms of personal income, Louisiana has had the slowest rate of growth among its sister states for the past

Table 1. Educational Attainment of Adults[a]

	1960		1970	
	La.[b]	U.S.[c]	La.[d]	U.S.[e]
Percent of adults with no schooling	6.6	2.3	3.9	NA
Percent of adults with less than 5 years of school	21.3	8.4	13.1	5.3
Percent of adults with at least 4 years high school	32.3	41.1	42.2	55.3
Percent of adults with 4 years or more college	6.7	7.7	9.0	11.1
Median years of school completed	8.8	10.6	10.8	12.2

[a] Persons 25 years of age or older.

[b] U. S. Bureau of the Census, *U. S. Census of Population: 1960, General Social and Economic Characteristics, Louisiana, Final Report*, PC (1)-20C (Washington, D. C., U. S. Government Printing Office, 1961) Table 47.

[c] U. S. Bureau of the Census, *U. S. Census of Population: 1960, General Social and Economic Characteristics, U. S. Summary, Final Report*, PC (1)-1C (Washington, D. C., U. S. Government Printing Office, 1962) Table 76.

[d] U. S. Bureau of the Census, *U. S. Census of Population: 1970, General Social and Economic Characteristics, Louisiana, Final Report*, PC (1)-20C (Washington, D. C., U. S. Government Printing Office, 1972) Table 46.

[e] U. S. Bureau of the Census, *Current Population Reports*, Series P-20, No. 207, "Educational Attainment: March 1970," (Washington, D. C., U. S. Government Printing Office, 1970) Table 2.

two decades. One out of every five families in Louisiana lives below the poverty level according to 1970 census data.[9]

Studies have shown that those who drop out of school with low educational attainment tend to become burdens on society rather than contributors.[10] Dropouts usually have a lifetime loss of opportunities to earn a decent living and frequently are on welfare, have a low level of participation in voting and making other governmental decisions, suffer poor health, and their children frequently have bleak futures.

Universal high school education is far from being achieved in Louisiana, but it is approaching reality in other states. The trend in other states seems to be toward postsecondary education for all, either through formal education programs, apprenticeship or on-the-job training. As the demand for advanced skills increases, it seems likely that those entering the job market without some type of post-secondary training will be at a serious disadvantage.

VOCATIONAL-TECHNICAL EDUCATION A SOLUTION?

Vocational-technical education seems to be an issue not only in Louisiana, but in all states. There is not enough of it; it often is not the right kind; and it is failing to reach the majority of youth and adults who need it.

There should be a full range of opportunity and responsibility for all segments of Louisiana's educational system. All are important and needed to provide quality programs that are coordinated and articulated and which meet needs of individuals with diverse interests and capabilities. The biggest void in Louisiana's educational system is its lack of adequate vocational-technical programs.

The urgent need to redirect the educational system toward placing more emphasis on vocational-technical education was aptly stated by Dr. Homer L. Hitt, chancellor of LSU, New Orleans, in a speech to a national conference on March 22, 1972:

> . . . there are far too many students on our college and university campuses who really do not belong there. The great majority of students, in fact, are poorly prepared for the standard college curriculum, are poorly motivated when it comes to academic work. They really would prefer to be somewhere else and doing something different. They are at college because of parental or social pressure, because of the threat of the draft, and because of the poor job market for the average high school graduate. They have finished high school, college is there, and it appears that there is nowhere else to go. . . .
>
> But we all will agree . . . that if the public supports higher educational opportunity for those with superior academic talents, it should also support opportunity beyond high school for those with different capabilities. This should include those who do not enter college as well as those who fail to adjust to a traditional academic program. Vocational and technical education would seem to offer the best solution to this problem. Our society has a desperate need for persons with such training, while at the present moment it seems to have difficulty providing employment for those holding academic degrees. . . .
>
> We must discard the idea that the traditional college degree is the only certificate of educational achievement. . . . A good plumber,

> carpenter, electrician or medical technician is a far greater asset to society than a mediocre teacher, lawyer, philosopher or doctor. . . .
>
> For the sake of the majority of our young people seeking to find their place and to gain their rightful share of our national wealth and production, and for the sake of higher education itself, I believe that we should direct a greater portion of our effort and a greater portion of our financial resources to vocational and technical education. No matter how quickly we do this, it will not be too soon.[11]

There seems little doubt that more money will be needed if Louisiana is to expand and upgrade its educational system to provide more vocational-technical education to the vast majority of its people who need and desire it. However, as John W. Gardner, former secretary of the U. S. Department of Health, Education and Welfare, stated:

> We cannot speak of our values apart from the down-to-earth programs that are necessary to put them into effect. For example: if we believe in individual dignity and responsibility, then we must do the necessary, sometimes expensive, often complicated things that will make it possible for each person to have a decent job if he wants one. We must provide the kind of education that will enable him to hold a job, the kinds of work training necessary to prepare him for specific lines of work.[12]

It is hoped that this PAR study will provide the impetus and direction needed to "do the necessary, sometimes expensive, often complicated things" needed in Louisiana to transform the state's educational system into one that meets the needs of its people through expanded vocational-technical, as well as career, education.

FOOTNOTES

[1] *Laws Relating to Vocational Education and Agricultural Extension Work*, comp. Gilman G. Udell (Washington, D. C.: U. S. Government Printing Office, 1971), 834-835.

[2] Action by Louisiana Task Force on Career Education at its June 3, 1972 meeting.

[3] U. S. Congress, House, Committee on Education and Labor, General Subcommittee on Education, *Reports on the Implementation of the Vocational Education Amendments of 1968* (Washington, D. C.: U. S. Government Printing Office, 1971), 2.

[4] *Ibid.*, 3.

[5] National School Public Relations Association, *Vocational Education: Innovations Revolutionize Career Training*, Education U. S. A. Special Report (Washington, D. C.: 1971), 1.

[6] National Education Association, *Rankings of the States, 1971*, Research Report 1971-R1 (Washington, D. C.: 1971), 28.

[7] U. S. Bureau of the Census, *U. S. Census of Population: 1960, General Social and Economic Characteristics, U. S. Summary, Final Report*, PC(1)-1C (Washington, D. C.: U. S. Government Printing Office, 1962), Table 115.

[8] Robert B. Bretzfelder, "State and Regional Personal Income, 1971," *Survey of Current Business*, LII (August 1971), 24-25.

[9] U. S. Bureau of the Census, *U. S. Census of Population: 1970, General Social and Economic Characteristics, Louisiana, Final Report, PC(1)-20C (Washington, D. C.: U. S.*

Government Printing Office, 1972), Table 58. According to the definition used by the census, an index provides a range of poverty income cutoffs adjusted by such factors as family size, sex of the family head, number of children under 18 years, and farm and nonfarm residence. The average poverty threshold used for the 1970 census for a nonfarm family of four headed by a male was $3,745.

[10] One recent study is *The Costs to the Nation of Inadequate Education*, prepared for the Select Committee on Equal Educational Opportunity of the U. S. Senate (Washington, D. C.: U. S. Government Printing Office, 1972).

[11] Dr. Homer L. Hitt, Address to the National Research Coordinating Unit Directors Conference in New Orleans, March 22, 1972.

[12] John W. Gardner, "What Kind of Society Do We Want?," *Reader's Digest*, LXXXXV (September 1969), 77-78.

The National Perspective

For many centuries vocations were learned almost entirely through the father-son pickup method in which the son learned skills by imitating his father. During the medieval period the apprenticeship system developed in which youth received skill training from a master. Formal education was limited largely to the wealthier classes until the industrial revolution at the end of the 18th century. With the advent of modern industrial society, the teaching of basic communicative and computative skills began to be extended to everyone. Public vocational education systems were established in Europe in the 19th century; this need was first recognized in the United States at the beginning of the 20th century.

As this nation has moved from an agrarian to a technological society, new demands have been made on its educational institutions. Some critics charge that education has responded with new fads. Today an increasing number are asserting that education is irrelevant—that it is primarily "school for schooling's sake."

The federal government has doubtless had a strong influence on the phases of education labeled "vocational." Garth L. Mangum, who has directed and authored numerous studies on manpower programs, criticized federal policies:

> Federal law which mandated a separate administrative structure for vocational education and defined it as less than college level did not create the separation between academic and vocational education but it has certainly perpetuated it. It is paradoxical that the very

> phases of education which are the most specifically vocational in nature, higher and graduate education, are held in esteem while occupational preparation at less than college level is without prestige.[1]

Dr. Mangum also blamed federal law for the charges of irrelevance in vocational education today:

> Though it is common to accuse vocational educators of resisting change by training for obsolete skills, it should be remembered that it was federal legislation, relevant in its day but unchanged over time, that locked the system into the occupational structure of 1917.[2]

Today the traditional ideas of education appear to be yielding to new concepts. Instead of regarding vocational-technical education as applying to some people and some work, many are now talking about "career" education applicable to all people and all work.

IMPETUS OF FEDERAL LEGISLATION

The federal government has provided the impetus for the development of vocational-technical education in this country. In fact, a compilation of federal laws on this subject consists of over 1,000 pages of small print.

THE SMITH-HUGHES ACT OF 1917

It has been 55 years since the first federal legislation on vocational education was adopted—the Smith-Hughes Act of 1917. Prior to 1900 several northern states had made limited experiments in their public schools to answer appeals for skilled manpower. Congress passed the Smith-Hughes Act to implement programs of vocational education throughout the nation, and the federal-state-local cooperative programs ensued. The rather rigid determination of specific programs under the 1917 act influenced the development of vocational education in this country for over four decades. Because the law stipulated that federally supported programs had to be of less than college grade and terminal in nature, most development of vocational education took place at the high school level. Programs were heavily weighted toward agriculture and home economics despite federal authorizations for industrial training.

Full implementation of the Smith-Hughes Act was not achieved nationwide until after World War II. The George-Dean Act of 1936 authorized funds on a continuing basis and added support for distributive education.

After the war, the George-Barden Act of 1946 expanded federal participation in the same four programs: agriculture, home economics, trade and industrial education, and distributive education, but states were allowed more flexibility.

The 1958 National Defense Education Act (NDEA) brought the first significant addition to vocational education since 1917. Under Title VIII, this act made federal funds available to train persons "as highly skilled technicians in recognized occupations requiring scientific knowledge . . . in fields necessary for the national defense."

By the 1960's, it was apparent that the nation's vocational education system was still inadequate. Vocational education funds were still too limited, and they continued to be channeled primarily into agriculture and home economics programs in the high schools.

THE VOCATIONAL EDUCATION ACT OF 1963

The Vocational Education Act of 1963 was a turning point for vocational education. This legislation attempted to rectify the failure to change occupational emphases to accommodate an increasingly sophisticated technical society; it also provided for a dramatic increase in federal funds and broadened the definition of vocational education. It recognized the need for a flexible educational system and focused on services to people without regard to predetermined occupational groupings. In effect, the act allowed funds to be available for various types of occupational training except that requiring a baccalaureate degree, thus allowing funds to be used for training at both the high school and postsecondary levels. Equally significant, the 1963 act recognized that large scale facilities would be needed and hence stipulated that a considerable portion of the funds was to be used for construction of area vocational centers for postsecondary training. The act also authorized the establishment of work-study programs and provided for development of research programs. More specifically, the act authorized federal funds to be used for:

1. Training persons attending high school.
2. Preparing high school graduates or dropouts for job entry.
3. Training or retraining persons in the labor market for job stability or advancement.
4. Developing special programs for persons with academic, socioeconomic or other handicaps.

5. Supporting ancillary services needed for teacher training and supervision, program evaluation, demonstration and experimental programs, development of instructional materials, strengthening of state administration, and periodic evaluation of programs in relation to projected manpower needs and job opportunities.

VOCATIONAL EDUCATION AMENDMENTS OF 1968

Congress, apparently impressed by advances made under the 1963 act, passed amendments in 1968 authorizing a more than doubling of federal funds for vocational education. Highest priority was given to meeting needs of the disadvantaged, the mentally and physically handicapped, and those seeking training at the postsecondary level. States were allowed more flexibility in the use of federal funds; the scope of existing programs was enlarged and broadened, and programs such as a combination of school and work were added.

ADVISORY COUNCILS

The 1968 amendments created a National Advisory Council on Vocational Education appointed by the President, which consists of 21 members who must include (1) persons familiar with vocational education and manpower training programs; (2) spokesmen for labor and management; (3) experts in training handicapped and disadvantaged persons; and (4) representatives of the general public including parents and students.

The National Advisory Council advises the U. S. Office of Education and reports annually to Congress on its evaluation of programs and new federal legislation it feels is needed. The council has given special attention to possible duplication of postsecondary and adult education programs.

To receive federal funds under the act, each state must establish a counterpart state advisory council. In addition to those types of persons required for the national council, state councils must also represent postsecondary institutions which provide occupational education, local education agencies and school boards, and state industrial and economic development agencies. State councils are either appointed by the governor or by elective state boards of education. A state advisory council must consult with the state board in developing its annual and long-range plan for federally assisted vocational education, advise on administration of the program, and conduct independent evaluation at least annually.

STATE PLANNING

Under the 1968 amendments, an annual state plan is required for federal funding. The plan is to: (1) set forth administrative policies and procedures; (2) describe activities for the first year of the 5-year plan; and (3) provide a 5-year plan describing immediate and projected needs of vocational education and proposed means of meeting these needs. The plan is to be revised and extended each year, and at least one public hearing is required before it is submitted to the U. S. commissioner of education for approval.

PERMANENT PROGRAMS

Among the federal funding programs under the 1968 amendments, the largest is for permanent programs, with authorizations set at about $0.5 billion a year. These funds replace and expand funds previously available.

Most (nine tenths) of the annual permanent program appropriation is allocated to permanent vocational education programs and approximately one tenth is allotted to permanent research and personnel training programs. Relatively small amounts are reserved for manpower studies by the secretary of labor and for national and state advisory councils.

States receive allocations on the basis of a formula which weights the number of persons in each state in various age groups needing vocational education and the state's per capita income. These funds must be matched by state and local funds on a 50-50 basis, but federal funds may cover up to 100 percent of the costs of special programs for the disadvantaged.

In spending federal funds, a state must use at least 15 percent of its annual basic allotment for the disadvantaged, at least 15 percent for postsecondary education and at least 10 percent for handicapped persons. States may use the remainder for high school students, programs for adults needing training or retraining, construction of area vocational schools, vocational guidance and counseling, contractual arrangements with private and proprietary postsecondary schools for training, and ancillary activities.

The research and training portion of permanent funding allows the state boards of vocational education discretion over one half of the allocation, and the U. S. commissioner of education discretion over the other half. State boards may award research grants dealing with special vocational education needs of youth, while the commissioner may grant research funds to state and local agencies in areas of curricula and personnel.

SPECIAL PROGRAMS

The 1968 amendments authorize funds for special purposes as well as for permanent programs.

One special fund is for consumer and homemaking education, designed to prepare youths and adults to be either homemakers or wage earners.

A fund for cooperative vocational education supports programs in which students attend school and work on a job related to their vocational studies. Federal funds are to be used for coordination of the programs, instruction, curricula materials, special services such as transportation, and evaluation. Students are to be compensated by employers only.

Another special program concerns a work-study approach to assist students through employment by a local education agency or other public institution. The purpose of this program is to help vocational students who need money to continue their studies.

To stimulate innovation, there are funds to: (1) develop exemplary programs and projects such as model programs for disadvantaged youth; (2) familiarize elementary and secondary students with career opportunities; (3) provide occupational counseling; (4) improve vocational curricula; (5) recruit vocational teachers; (6) exchange personnel between schools and other organizations; and (7) provide students with work experience.

Special funds were also authorized to encourage construction of residential vocational high schools, but no appropriation was made in 1971.

IMPACT OF 1963 AND 1968 ACTS

Under the impetus created by the 1963 and 1968 acts, enrollment in vocational education programs nationwide more than doubled, from 4.2 million in 1963 to an estimated 9.6 million in 1971, and the U. S. Office of Education has projected an enrollment exceeding 13.5 million by 1975. The nation's expenditures for vocational-technical education from local, state and federal sources increased sevenfold, from $300 million in 1963 to a projected $2.15 billion in 1971. (This data pertains only to those programs eligible for federal funding.)[3]

EDUCATION AMENDMENTS OF 1972

Sidney P. Marland, Jr., former U. S. commissioner of education and now assistant secretary for education of HEW, has described the Education Amendments of 1972 as "the most significant educational legislation of our times." While more than two thirds of the act pertain to higher education, there are some changes which might have a profound effect on vocational-technical education.

The 1972 law creates interlocking programs of support for community colleges and promotion of occupational education at the elementary-secondary as well as the postsecondary levels.

The definition of a community college is worded in such a way as to include for federal funding all public and nonprofit accredited postsecondary institutions which meet the following criteria: (1) admit high school graduates or the equivalent or persons who are at least 18 years old; (2) offer an associate degree or credits acceptable toward a baccalaureate degree; and (3) provide technical, occupational and "specialized" education.

The definition specifically includes 4-year institutions of higher education and their branches. It authorizes grants to establish or expand community colleges, but funds may not be used to build or buy facilities. They may be used, however, to renovate, remodel or lease facilities.

The new act also authorizes grants to states for planning occupational education, which includes the career education concept although not specifically mentioned. In particular, planning is to include:

> . . . the development of a long-range strategy for infusing occupational education . . . into elementary and secondary schools on an equal footing with traditional academic education, to the end that every child who leaves secondary school is prepared either to enter productive employment or to undertake additional education at the postsecondary level, but without being forced prematurely to make an irrevocable commitment to a particular educational or occupational choice.[4]

In addition, the new act expands the definition of vocational education so that an industrial arts program is eligible for vocational education funding.

The Education Amendments of 1972 contain maximum authorizations for funds; however, the appropriations themselves must be made through separate congressional action.

STATE VOCATIONAL EDUCATION SYSTEMS

Although the federal government has encouraged the development and expansion of particular programs in vocational education, each state is responsible for its own system—the organizational structure, emphasis and types of institutions used. States have developed their programs according to their historical traditions, preferences, peculiar needs and goals. As a result, there is great variety among the states; indeed, each state appears to be unique in one or more respects.

A survey by PAR in which over half of the states completed questionnaires revealed that there is no single pattern of organization nor lines of control, particularly among postsecondary programs and institutions. Programs are offered at an amazing variety of educational institutions. The types of secondary institutions include comprehensive high schools, trade or technical high schools and area vocational centers, as well as combined or cooperative secondary-postsecondary schools and programs. The types of postsecondary institutions offering vocational training include area vocational-technical schools, technical institutes, technical colleges, 2-year community or junior colleges, senior colleges and universities, adult schools, and 13th and 14th year programs attached to high schools. Many states offer programs at almost all of these different types of institutions.

Persons interviewed who are aware of operations throughout the country agree that there are divergent organizational patterns, programs and emphases among the states. In fact, Garth L. Mangum has concluded that there is no system:

> The concept of a vocational education system is largely a myth. There is a federal Vocational Education Act with an accompanying appropriation and a federal bureau to dispense the funds. There is the American Vocational Association and there are state boards of vocational education. There are reports which certify, for instance, that over 7 million persons studied vocational education in 1967. But any relationship to a system ends before it reaches the schools and the students.[5]

Programs are frequently administered through several state boards, particularly in postsecondary education, as well as through local authorities. Financing can come from federal, state and local sources as well as from student charges.

There is no identifiable trend among states toward a particular type of structure, nor toward one type of institution over another, although through federal encouragement many states have been rapidly constructing area vocational schools for secondary and/or post-secondary students. No state appears to be a model for other states to copy.

A review of reports by all 50 state advisory councils and directors of vocational-technical education indicates that no state feels it is meeting its needs for vocational-technical training although some states are trying much harder than others.[6]

The PAR staff visited staffs of state departments of vocational-technical education in six states (Georgia, North Carolina, Ohio, South Carolina, Tennessee and Wisconsin) to gain an insight into the operation of programs in states with different emphases and approaches. The general impression was that, while these states use several organizational arrangements and methods of funding, they would prefer as much centralization of authority within a single state board as possible rather than fragmenting authority among several boards. Those persons interviewed also tended to feel that state control is essential for a well-planned and coordinated system, and that this becomes possible under a single board which controls state and federal funds and channels them into desirable and stated objectives spelled out in a state plan.

TYPES OF INSTITUTIONS

Comprehensive high schools have been the largest single source of vocational education; home economics, agriculture, office and industrial arts offered in high schools reach more students than any other single program. Until the early 1960's, comprehensive high schools were the only training institutions in many areas. In recent years many are questioning whether high schools, with limited ability to provide breadth and depth of curricula, should provide programs other than the very basic vocational courses.

Some have taken a new look at one of the nation's oldest types of vocational institution—the trade high school—which was established by several of the more heavily industrialized states at the beginning of the century. However, these states have not extended these schools, and few other states introduced them into their systems during the last decade. One weakness is that the trade high school separates youth on a vocational basis, thus making them susceptable to a second-class status.

One development given impetus by the federal government under the 1963 Vocational Education Act is the systematic development of area vocational schools. Under such a system, a state is divided into commuting areas, and an educational center is established at the principal population center of each area. The area schools perform a variety of functions. They offer a wide range of programs and can be used as service centers for activities related to many fields. They can train high school youths on a cooperative basis, provide job training to high school and college dropouts, retrain and upgrade training of adults, and offer basic education to those who failed to acquire fundamentals in elementary school. Courses may range from the most straightforward craft to a sophisticated technical skill. Federal funds caused a tripling of such schools throughout the country in 4 years—from 405 in 1965 to 1,303 in 1969—with still more schools being planned or constructed.[7]

Institutions of higher education are assuming an ever increasing role in vocational-technical education. Many states have made extensive use of community or junior colleges which are 2-year institutions offering terminal programs in occupational, technical and paraprofessional training as well as the first 2 years of college for students planning to transfer to 4-year colleges and universities. Some are also comprehensive in offering various adult courses and hobby interests. In recent years many 4-year colleges and universities have begun offering subbaccalaureate curricula leading to an associate degree or certificate.

SEPARATE BUT EQUAL FACILITIES?

One of the oldest issues concerning vocational-technical education is whether it should be taught along with academic subjects, or be separated into a specialized setting. This issue has not been resolved even today, particularly in postsecondary educational institutions. Most vocational and technical educators are adamant in their argument that postsecondary institutions for vocational-technical education be single-purpose. These educators purport that such education involves methods and procedures different from general education, and the success of these programs depends upon administrators who have knowledge and expertise in such training. Proponents of separate but equal facilities point out that historically and currently, general educators in comprehensive postsecondary institutions place primary emphasis on the academic and dilute vocational-technical programs.

Others feel that the separate but equal approach to vocational-technical education is bad theory and bad practice. It has been argued that it is this separatism that tends to identify vocational-technical education as second-class.

Despite years of these conflicting views, no national pattern nor definitive answer has evolved among the states. Some states are striving toward comprehensive high schools and junior colleges to merge academic and vocational training, while others have launched huge programs to construct and operate vocational-technical centers at the secondary and postsecondary levels.

COOPERATIVE WORK PROGRAMS

Most vocational educators throughout the country recognize that cooperative programs which allow students to obtain work experience can be valuable in relating education to career goals. Cooperative work programs allow a student to learn about a career; develop proper work attitudes such as responsibility and cooperation; and acquire skills in a particular occupational area.

Under cooperative programs in secondary schools, high school juniors and seniors usually go to school part-time and work part-time on jobs approved by the school. The time in school usually includes a class concerned with the theory of the occupation or business in which the student is employed and is taught by the same person who visits the student on the job to see that he is learning and is not being exploited. Cooperative programs have a variety of names, depending on the type of occupation: distributive education, office occupations, industrial cooperative and diversified occupations.

The 1968 federal law points out advantages of cooperative work-study programs:

> Through such programs, a meaningful work experience is combined with formal education enabling students to acquire knowledge, skills, and appropriate attitudes. Such programs remove the artificial barriers which separate work and education and, by involving educators with employers, create interaction whereby the needs and problems of both are made known. Such interaction makes it possible for occupational curricula to be revised to reflect current needs in various occupations.[8]

In addition to cooperative programs, there are also work-study or work-experience programs where employment is either by the school or on the school grounds. There is a difference between a cooperative work-experience program which has job training as its basis and a work-study program which has financial need as its primary purpose. For this reason, many feel that work-study programs are less satisfactory than cooperative programs since employment may not be typical nor related to education and career goals of the student.

Some advocate that cooperative work experience should be required for all students before high school graduation, either during the regular school year as part of a student's normal load or during the summer under school supervision. Such experience could be obtained by working for business and industry, professional persons or governmental agencies or by voluntary service with civic and social service organizations.

Federal and state laws concerning age at which youths may begin work, minimum wage laws, and health and safety standards can impede cooperative programs. It is argued that so long as work experience is supervised by a school and there are proper safeguards to protect students and employers, the need for such protective legislation is eliminated and such impediments should be removed.

MANPOWER PROGRAMS

The decade of the 1960's added a vast array of manpower training programs to existing vocational education programs. Training of jobless workers in depressed areas began under the federal Area Redevelopment Act of 1961, was expanded considerably under the Federal Manpower Development and Training Act of 1962 (MDTA), and since has mushroomed into numerous programs. The dozens of acronyms and initials have become so confusing that some refer to these programs as "alphabet soup."

Because the unemployment rate for disadvantaged and handicapped youths is so extraordinarily high, the federal government's first efforts were directed toward skill training for immediate employment. However, it soon became evident that basic educational deficiencies in reading, writing and arithmetic also needed to be remedied. In an effort to move quickly, some 18 different federal agencies established a variety of competing and overlapping manpower programs. The most important federal acts authorizing manpower programs are:

1. Economic Opportunity Act of 1964.
2. Manpower and Development Training Act of 1962, as amended.
3. Vocational Education Act of 1963.

4. Elementary and Secondary School Act of 1965.
5. Social Security Amendments of 1965.
6. Vocational Rehabilitation Act of 1965.
7. Public Works and Economic Development Act of 1965.
8. Emergency Employment Act of 1971.

Most of the federal manpower programs have little relationship to the formal school structure—perhaps because it was felt that (1) schools had had their chance and failed; (2) potential trainees did not find the formal school structure attractive; and (3) most school personnel were not interested. As a result, federal support bypassed vocational-technical schools which had the capacity to develop new skilled and technical manpower. Emphasis was placed on remedial and corrective action rather than on programs to prevent human failure and develop human resources. This premise has been criticized as fallacious since the number of unskilled and disadvantaged remained about the same at the end of the decade of the 1960's as at the beginning, and the nation faced its greatest shortage of skilled and technical manpower in the 1970's.

The following is a discussion of some of the major manpower programs.

MANPOWER DEVELOPMENT TRAINING ACT (MDTA)

MDTA provides for a broad range of programs, with emphasis on the disadvantaged, unemployed and underemployed. There is cooperative participation by several federal agencies—the U. S. Department of Labor's Manpower Administration, federal-state employment service offices and the U. S. Office of Education.

MDTA programs can provide basic education, institutional training in classrooms and vocational laboratories, preapprenticeship training, on-the-job training, or a combination of institutional and on-the-job training. Programs can be organized on a group basis or by individual referral. Trainees receive income support.

The two major categories of MDTA programs are institutional and on-the-job training.

MDTA INSTITUTIONAL

MDTA classroom training may be (1) institutional, (2) less-than-class and (3) upgrade. If there is an insufficient number of potential trainees to form a full class, individuals may be provided subsistence supplements and placed in already established public or private vocational training classes, under the less-than-class program. The upgrade program provides similar assistance to underemployed individuals for part-time classroom instruction.

Several agencies cooperate in the MDTA institutional programs within a state. The state departments of employment security screen prospective students, test them to ascertain occupational capabilities, determine eligibility for financial allowances and, after training, are responsible for job placement and follow-up. State departments of education are responsible for securing facilities and instructors as well as preparing curricula.

Federal guidelines require the departments of employment security to justify the need for each training project by estimating employment demand. Normally a survey is made of those industries in a particular geographic area that are most likely to hire employees in proposed training occupations. A local MDTA advisory committee endorses each specific project proposal prior to funding.

MDTA ON-THE-JOB TRAINING (JOP)

The MDTA On-the-Job Training program, begun in 1967, was replaced during 1971 by the JOBS-Optional Program (JOP). Under this restructuring, major administrative responsibility was assigned to the states.

There are "low support" and "high support" programs. A "low support" program has enrollees who require relatively little supportive help other than the chance for on-the-job training; at least 50 percent of enrollees must be classified as disadvantaged. A "high support" program must have 100 percent disadvantaged enrollment.

The JOP program within a state is administered by the Department of Employment Security which screens applicants for referral and negotiates contracts through its area offices.

JOB OPPORTUNITIES IN THE BUSINESS SECTOR (JOBS)

The Job Opportunities in the Business Sector (JOBS) program, established in 1967, encourages private industry to hire, train and retrain hard-core unemployed and underemployed workers. The JOBS program stresses employment of minority groups; attempts are made to distribute existing job opportunities more equitably, not to create more jobs.

JOBS, a cooperative venture between the U. S. Department of Labor and the National Alliance of Businessmen (NAB), is run by private employers and partly subsidized by the government. The JOBS program provides not only on-the-job training but also remedial education, counseling and assistance with health and transportation problems. Participating employers are paid the extra costs involved in providing training and special services to those hired.

OPERATION MAINSTREAM

Operation Mainstream, authorized by a 1965 amendment to the Economic Opportunity Act, provides counseling, basic education and work experience for chronically unemployed rural adults, most of whom are aged. Little if any job training is offered; work is provided in community development and beautification projects. Earnings of many participants supplement social security payments. Community action agencies in rural areas administer the program.

WORK INCENTIVE PROGRAM (WIN)

The Work Incentive Program (WIN), initiated in 1968, is designed to serve those 16 years and older who receive welfare assistance under the Aid to Families with Dependent Children (AFDC) program. It is jointly administered nationally by the U. S. Department of Health, Education and Welfare and Department of Labor, and within states by the state welfare department and employment security agencies.

The WIN program provides training and placement services aimed at removing persons from the welfare rolls. State welfare departments refer enrollees and provide social services during enrollment. Participants are also provided incentive payments during the training period and can receive reduced payments after entering a job. A WIN office within the state employment security agency prepares an employability plan for each client. Plans can be flexible; clients may be given a combination of training and/or work experience including basic education, vocational training or services of other relevant manpower programs. WIN also provides child care, medical and other social services, and job placement.

The WIN program attempts to deal with one of the most difficult categories of the disadvantaged who are unemployed. A recent national survey of manpower programs found that WIN enrollees had the least satisfactory job placement record; the greatest problem was that few welfare mothers chose to seek employment following training.

NEIGHBORHOOD YOUTH CORPS (NYC)

The Neighborhood Youth Corps (NYC) program was established to provide income to youths from poor families. There are three separate but related programs:

1. The in-school program provides employment so that youths will not drop out of school for financial reasons.

2. The summer program provides jobs during the summer so that youths will have sufficient income to return to school in the fall. Emphasis of both the in-school and summer programs is on income through employment rather than on skill training or education experience.

3. The out-of-school program provides full-time work for idle youths aged 16 to 20, most of whom have dropped out of school. The program provides for a variety of work situations as well as for maintenance, custodial and health care of the enrollees. Programs rarely offer job training or basic education and thus, fail to improve a youth's employability or propensity to return to school. A participant may remain in the program for 2 years.

CONCENTRATED EMPLOYMENT PROGRAM (CEP)

The Concentrated Employment Program (CEP), created under the MDTA and the Economic Opportunity Act, is administered by the U. S. Department of Labor with local responsibility assigned to community action groups.

CEP attempts to consolidate manpower programs into a single package, concentrating on a target area with a large number of seriously disadvantaged people.

A CEP project involves direct contract by the federal government with a single sponsor who in turn may subcontract services or components of the program to public or private agencies. The sponsor may assemble funds that might have been available for individual programs such as Neighborhood Youth Corps, New Careers or MDTA programs. CEP projects interlock with Model Cities programs in communities with such programs. Sponsoring agencies are often local community action agencies or a city government.

JOB CORPS

The Job Corps, one of several training programs created by the Economic Opportunity Act, provides general education, vocational training, work and physical conditioning to persons between the ages of 16 and 21 who are out of school, unemployed or in "dead-end" jobs. It is administered by the Manpower Administration of the U. S. Department of Labor. State employment security agencies provide intake and referral through their area offices and youth opportunity centers.

Four types of training centers operate under the Job Corps:

1. Civilian conservation centers for men are residential centers operated on state and federal lands by the departments of agriculture and interior.

2. Large urban centers for men are residential centers operated under Department of Labor contracts by business firms and state educational foundations.

3. Women's job corps centers are residential facilities operated under private contract with private industry, educational institutions or social service agencies.

4. Residential manpower centers provide training programs, on both a residential and nonresidential basis, to youths from a local area (some coeducational) through contracts with private industry, educational institutions or social service agencies.

Criticism of the Job Corps program has ranged from the high cost (over $8,000 per enrollee in 1967) to the requirement that a certain percentage of youths must leave home to receive training. The program was drastically restructured in 1969, and enrollment throughout the country was cut by 40 percent, to 18,000.

ADULT BASIC EDUCATION (ABE)

The Economic Opportunity Act provides funds for adult basic education (ABE) programs for persons over 18 years who participate in a community manpower program.

EMERGENCY EMPLOYMENT ACT (EEA)

The Emergency Employment Act (EEA) of 1971 authorized $750 million for fiscal 1972 and $1 billion for fiscal 1973 to provide public service jobs at the state and local level to the unemployed and underemployed during times of high unemployment.

PUBLIC SERVICE CAREERS (PSC)

Public Service Careers (PSC) is a program designed to fill manpower needs of public agencies and private institutions, and at the same time upgrade underemployed persons. An objective is to help agencies recruit and select workers, restructure jobs so that unskilled persons can fill them, and offer training so that employees can advance to more responsible positions. PSC is administered by the U. S. Department of Labor's Manpower Administration.

New Careers is a special program under PSC, designed for underemployed and employed persons 22 years and older; it provides employment and training for preprofessional jobs such as nurse aides, police aides, teacher aides and welfare aides which could lead to more advanced jobs.

CRITICISM OF MANPOWER PROGRAMS

A number of criticisms have developed concerning manpower programs. The American Enterprise Institute for Public Policy Research has cited the following problems:

1. There is a proliferation of programs with different methods of funding and eligibility requirements. Many persons do not receive the kind of training they need despite the wide variety of programs. Often efforts are concentrated on filling available slots rather than developing an appropriate mix of services needed by individuals.

2. There is wasteful duplication of manpower services and lack of coordination of programs and agencies. Federal agencies compete for control of programs. Administration is through public agencies, nonprofit organizations and profit-making companies. The U. S. Department of Labor deals with over 10,000 different sponsors in operating programs under its jurisdiction. Also, programs have a variety of regulations controlling rate of pay, eligibility criteria and conditions of training.

3. Programs have depended upon federal initiative and control for their success; state and local authorities have been given little opportunity to exercise initiative and have little control over allocation of resources or administration of programs.

4. New programs were created on a piecemeal basis with little consideration of their interaction with existing programs.

5. Federal agencies encounter serious difficulties in administering

the numerous conflicting and complex programs and in making certain that program goals established by Congress are achieved.[9]

In addition to administrative problems, federal manpower programs have been criticized for emphasizing remedial rather than preventive objectives and for their tendency to be separate from the general education system. A program to reorient federal manpower policy, outlined in Grant Venn's *Man, Education and Manpower*, rests on four basic premises:

> First, any program to educate or train people outside or apart from the mainstream where the majority are educated will be seen as second-class by those enrolled, by those who employ the trainees, and by those who must pay the bill, the taxpayers.
>
> Second, an overemphasis on remediation and correction rather than on development programs will not solve the problems of unemployment or manpower shortages, and the immediate and long-range costs will be greater.
>
> Third, emphasis on entry job skills and employment are not enough to help those most in need. Every person aspires to career development with a future that has vertical and horizontal occupational mobility.
>
> Fourth, whenever the labor market becomes tight, those without education or potential for learning new skills are the first to be fired.[10]

OTHER SOURCES OF VOCATIONAL EDUCATION

There are several other means of obtaining occupational training other than through public institutions and manpower programs.

PRIVATE SCHOOLS

Private or proprietary schools usually prepare students for employment in specific areas. Tuition costs and lack of good schools in certain training areas put private schools beyond the reach of many.

APPRENTICESHIP

Apprenticeship programs have long been a basic method of providing occupational training. They involve a formal agreement covering a definite period of time which binds the employer to provide training. The training combines theory and on-the-job instruction to prepare journeymen in skilled crafts. The Louisiana State Apprenticeship Council registers such programs and provides technical assistance to employers and unions in establishing programs.

Formal apprenticeship programs provide only a small proportion of the total skilled manpower needed; it is doubtful that they can be economically extended to a broad range of vocations.

EMPLOYER TRAINING

On-the-job training in conjunction with classroom work is another means whereby persons receive vocational training. A 1963 study by the U. S. Department of Labor showed that only a small proportion of workers learned their basic skills through formal employer training. Normally only large companies can afford training.

MILITARY SERVICE

The armed forces provide specialty training to most of their members on active duty but the majority receive training of limited value for the civilian labor market. Only those making the military a career receive intensive training, and as the armed forces become more dependent on volunteers, they will provide a diminishing source of skills for nonmilitary needs.

CAREER EDUCATION

There has been growing concern that the educational system has been too selective in its attention to the educational needs of the people and has failed to attain what should be its primary goal—to educate everyone to his true potential. Throughout the country there is increasing criticism that education has focused too much attention on general and college oriented education, thereby serving only the few who are "easy to reach and easy to teach." As a consequence, far too many students drop out. Former Labor Secretary Willard Wirtz called such students "push-outs" rather than "dropouts."

To make education more relevant to today's needs and the needs of the future, many are now advocating that the entire school program be restructured, with the focus on "career development." The U. S. Office of Education has selected career education as a major priority. Dr. Sidney P. Marland, Jr., in a speech on January 23, 1971, stated that career education "will be one of a very few major emphases of the U. S. Office priority areas in which we intend to place maximum weight of our concentrated resources to effect a thorough and permanent improvement."

WHAT IS CAREER EDUCATION?

There are many conceptions and definitions of career education. A 1972 publication of the U. S. Office of Education, *Career Education*, defines the fundamental concept of career education as one in which:

> . . . all educational experiences, curriculum, instruction, and counseling should be geared to preparation for economic independence and an *appreciation for the dignity of work.*
>
> The main thrust of career education is to prepare all students for a successful life of work by increasing their options for occupational choice, by eliminating barriers—real and imagined—to attaining job skills, and by enhancing learning achievement in all subject areas and at all levels of education. . . .
>
> In scope, career education encompasses educational experiences beginning with early childhood and continuing through the individual's productive life. . . .
>
> Career education, in the words of Commissioner Marland, will eliminate the artificial separation 'between things academic and things vocational.'[11]

Although career education may be a new term for the layman, the concept is not new. Grant Venn points out:

> During the decades 1890-1910 vocationalism was one of the hottest issues in education, and the failure of educators during that period to agree on the place of vocationalism in the schools was to leave a heavy mark on the kind of vocational education which, inevitably, was put in the schools. It was a problem to which John Dewey directed some of his most penetrating thought. Sensing the inherent danger of developing dualism in the educational system, Dewey strongly urged the integration of vocational education into the general school program, stressing the benefits that would accrue to both forms of education to the worker-citizen, and to the democratization of industry.
>
> But Dewey's voice was to no avail. The traditionalists refused to bend on such matters as the necessity of an academic curriculum for all students and requirements for teacher certification; many simply cringed at the sound of hammers and saws in the school.[12]

Career education is based on a sequentially developed education program. Today most children know little about work and the different kinds of jobs, nor do they have much contact with the "world of work" either in school or by casual acquaintance. The career education concept maintains that to fill this void, schools should gear their curricula to the career concept starting in the elementary school years and continuing through postsecondary education. Under this concept, schools should begin career discussions and orientation at the *elementary* school level. The elementary grades should develop an understanding of the concept of work, positive attitudes toward work and workers, and familiarity with various fields of work. Exploration into broad occupations should be available to *junior high* students. There should be prevocational experiences leading to an understanding of careers and the consequences of various choices. *High school* students should continue to investigate careers, assisted by guidance counselors and through work experience. There should be training in clusters of occupations for basic job entry and/or continuation of education at the postsecondary level. *Postsecondary* education should develop training for those continuing their education and who have chosen a career. It should provide further opportunities to prepare for employment, and a major portion of attention should be directed toward preparing for occupations requiring considerable skill and specialization. Remedial and preparatory training should be provided *adults* and *out-of-school* youth so that they may become employable, have greater job security or advance in their jobs.

The philosophy of career education is that learning can occur when it is made meaningful through a practical setting rather than an abstract one. Education is made relevant to the adult's primary role of working so that society can function. Hence, the specific relevant activities for youths are those in which they work and prepare for more mature and advanced work roles. Career education thus begins in the elementary grades and continues through each succeeding level—junior high, secondary, postsecondary and adult. It demands no permanent bondage to a career goal or choice; rather, it should reveal to students their great range of options and help them develop positive attitudes toward work. Such a program is to serve as a core around which other areas of knowledge are organized so that it is integrated into the whole school program.

Career education envisions that all youths, as part of growing up, are entitled to experience the psychological meaning of work, to examine the benefit to society of different forms of work, and to test themselves in different work activities and acquire skills necessary to enter their chosen careers. Under present education programs, youths are reaching early adulthood without such experiences. It has been said that "A lot of kids don't know what they want to do because they've never done anything."

Career education also embodies the idea that students who have a reason to learn will do so, and motivation is stimulated through career development. For example, students who did not learn basic education throughout their elementary-secondary years can be taught reading, writing and arithmetic when ideas are presented for use within the context of learning a job. Hence, career education embodies not only vocational education, that is, development of specific occupational skills, but represents a method of providing basic knowledge and cultivating the capacity to learn for everyone—those pursuing a "vocational" education as well as those desiring a more "academic" education. The choice between "vocational" and "academic" education should not be one of poor or good education but, rather, it should be a choice of careers and individual pursuits.

Career education envisions that the schools will make options real and viable for everyone—to discover talents and relate them to the "world of work," to learn of career options and choose a career, to refine talents and then use them successfully in employment. Because of the rapidity of technological changes and competition resulting from an increasingly higher educational attainment among the population, there will be a continuing need for upgrading, retraining and remedial education.

THE CLUSTER CONCEPT

One of the recent developments embodied in career education is the "cluster concept." This concept holds that many jobs have a commonality, that is, they require some similar or identical skill and knowledge and, hence, can be clustered. Occupational clusters, which together should represent all kinds of jobs, are being advocated by the U. S. Office of Education as one means around which a career education system might be designed. The number of clusters that a student should explore is expected to narrow as a student advances in school and makes decisions as to areas in which he is interested.

The U. S. Office of Education has recently proposed that career selection be geared to exploring 15 clusters:

Agri-business and Natural Resources
Business and Office
Communication and Media
Construction
Consumer and Homemaking Education

Environment
Fine Arts and Humanities
Health
Hospitality and Recreation
Manufacturing
Marine Science
Marketing and Distribution
Personal Services
Public Service
Transportation

These 15 clusters are intended to replace the traditional seven areas of vocational education: agriculture, distribution, health, home economics, office, technical, and trades and industry. The clusters embrace the approximately 22,000 jobs included in the present *Dictionary of Occupational Titles* and admittedly overlap in types of jobs and embrace a wide range of jobs. For example, a secretary or salesman may be involved in all clusters. Within the public service cluster, the jobs of garbage collector and president of the United States are included.

The clusters also embrace the "ladder" concept in which persons selecting a career interest can advance to higher levels through additional education and experience. For example, a cook could advance to a dietitian or restaurant manager.

Under the career education concept, it is not intended that students learn specifics of thousands of jobs but, rather, that they be exposed to different avenues of interest and opportunities for employment so that they may choose a career based on knowledge and not chance.

CAREER EDUCATION AMONG THE STATES

A number of states are in differing stages of implementing variour versions of career education. This concept is being developed through state curricula laboratories and vocational research coordinating units. In addition, the U. S. Office of Education is attempting to accelerate development through "capstone" projects in which schools with partial career education programs are able to increase and expedite their efforts to install comprehensive programs. The agency has funded exemplary vocational programs in many states.

In an effort to develop successful and workable career education programs, the U. S. Office of Education sponsored six pilot projects in the public schools of Atlanta, Georgia; Los Angeles, California; Hackensack, New Jersey; Pontiac, Michigan; Mesa, Arizona; and Jefferson County, Colorado. In addition to the school-based model, the U. S. Office of Education is also developing three other models: (1) a home-based model making extensive use of television instruction and possibly tutoring; (2) an employer-based model with a consortium of public and private employers who are responsible for a major portion of a student's training; and (3) special residential facilities, presumably for youth, where students can live and engage in intensive career development and academic learning. Ohio State University has also developed a career education model.

The U. S. Office of Education has cited several states as making significant advancement in developing career education programs. For example, the Arizona State Board of Education made $1.9 million available to institute career education in 15 school systems beginning in September 1971. Other states cited as having outstanding examples of local efforts to implement career education programs include Delaware, Georgia, Mississippi, New Jersey, North Dakota, Ohio, Oregon and Wyoming. Large city school systems turning to career education as their basic design include those of Dallas and San Diego.

Assistant Secretary Marland has recognized that there is no definitive model for career education. In a June 1971 speech before the Council of Chief State School Officers he said:

> Career education cannot be defined solely in Washington. Revolution doesn't happen because government suggests it. We can ask many of the questions, we can help with funds, but if career education is to be the revolutionary instrument that the times demand, it will be defined in hard and urgent debate across the land by teachers, laymen, students, and administrators in months to come. Let that debate start now.[13]

The members of the Council of Chief State School Officers, without exception, agreed to commit themselves to reorienting the schools to the career education concept.

GUIDANCE SERVICES

There is growing awareness among states that guidance services are fundamental to career education as well as vocational-technical programs. Guidance services are vital in assisting the individual student in self-understanding, in educational and vocational planning, and in personal and social development.

The entire staff of educational institutions must be involved in guidance. Instructors and administrators should assist students whenever possible. However, guidance demands professional counselors experienced in the various methods of providing guidance and who are also knowledgeable about occupational opportunities. A number of services are offered by the professional counselor; some of the more important are:

1. Counseling—focusing attention on the student's growth in self-understanding, self-decision and self-direction.
2. Consultation—consulting with parents to help them understand their child and the purpose of the school, with instructors in individualizing instruction, and with administrators in planning for guidance experience in the curriculum.
3. Educational and Occupational Planning—helping students select courses and planning the training available in the areas of their vocational choices.
4. Testing and Evaluation—planning testing programs and evaluating their results to ascertain the abilities and interests of students.
5. Referral—when students need special help, referring them to sources providing the needed assistance.
6. Placement—assisting students in getting the best training, helping students move easily from one level to another, or in finding employment after they leave school.
7. Research—adequate training to evaluate the school's program in the light of the needs of the students in that school.

FOOTNOTES

[1] Garth L. Mangum, "Preparing Youth for Employment: The Role of the Public Schools," in *Education for Disadvantaged Youth*, ed. Sterling M. McMurrin (New York: Committee for Economic Development, 1971), 31-32.

[2] *Ibid.*, 32.

[3] U. S. Office of Education.

[4] "Education Amendments of 1972," Public Law 92-318, 92nd Congress, June 23, 1972, p. 84.

[5] Mangum, "Preparing Youth for Employment," 27.

[6] U. S. Congress, House, Committee on Education and Labor, General Subcommittee on Education, *Reports on the Implementation of the Vocational Education Amendments of 1968* (Washington, D. C.: U. S. Government Printing Office, 1971).

[7] U. S. Office of Education, *Vocational and Technical Education Annual Report, Fiscal Year 1969* (Washington, D. C.: U. S. Government Printing Office, 1971), 3.

[8] *Laws Relating to Vocational Education and Agricultural Extension Work*, comp. Gilman G. Udell (Washington, D. C.: U. S. Government Printing Office, 1971), 851.

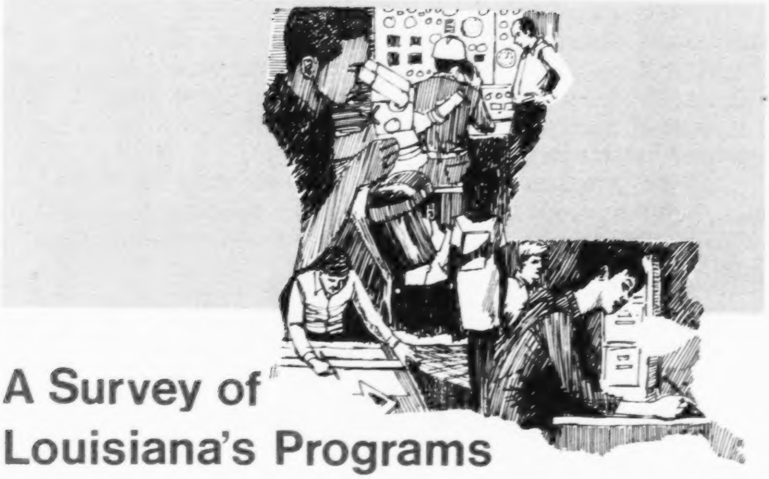
[9] The American Enterprise Institute for Public Policy Research, *Special Revenue Sharing for Manpower Training and Employment Program*, Legislative Analysis No. 10 (Washington, D. C.: August 9, 1971), 5-6.

[10] Grant Venn, *Man, Education and Manpower* (Washington, D. C.: American Association of School Administrators, 1970), 7-8.

[11] U. S. Office of Education, *Career Education* (Washington, D. C.: U. S. Government Printing Office, 1971), 2-3.

[12] Grant Venn, *Man, Education and Work* (Washington, D. C.: American Council on Education, 1964), 51.

[13] Dr. Sidney P. Marland, Jr., Address to Council of Chief State School Officers, June 1971.



A Survey of Louisiana's Programs

Louisiana was one of the first states to initiate vocational-technical schools, originally called trade schools, and should have had a jump on other states. However, Louisiana seems to have fallen behind many states in providing vocational-technical education to a large segment of its population.

The programs that Louisiana does provide are unplanned, uncoordinated and underfinanced. There is a serious lack of communication and cooperation among elementary-secondary schools, vocational-technical schools and institutions of higher education in the public sector. Private programs are unknown and ignored by those responsible for planning and implementing public programs. Serious conflicts are developing over funds and programs among the various types of institutions. The public has little knowledge of the public and private programs that are in existence, and knowledgeable persons in business and industry are seldom called on for assistance.

Louisiana has a vast assortment of vocational-technical programs, both public and private, but there is no central source of information concerning their operations and location, cost and effectiveness, nor the number and types of persons participating. To fill this void, PAR made an extensive, although not exhaustive, survey.

Louisiana's publicly financed vocational-technical programs are administered through state and local educational authorities and are offered at three types of institutions: elementary-secondary schools, vocational-technical schools, and colleges and universities. In addition, federal manpower programs are provided in a vast array of settings through a variety of agencies.

Private programs are offered by a wide range of institutions through differing arrangements: vocational-technical schools, colleges and universities, industry training programs and apprenticeship programs.

CAREER EDUCATION

The concept of career education has been receiving mounting interest in Louisiana. This has been sparked by growing dissatisfaction with the present educational system which an increasing number of persons see as irrelevant to the needs of most students. There appears also to be growing concern that the present educational system has failed to provide students with basic education so that even high school graduates have limited ability to read and write, and elementary-secondary schools are failing to prepare students for a productive life in which they can earn a living. Louisiana's high dropout rate bolsters the arguments that schools are failing to interest and retain youth, and the relatively low educational attainment of Louisiana's adult citizens indicates that education has proved unattractive to past generations of students.

The Louisiana Advisory Council for Vocational Technical Education set forth the need for the implementation of career education in Louisiana in a special March 1972 report. The council saw the need as twofold:

> First, there is an immediate need to provide job preparation and career guidance for those youths who may or may not be in school and who need employment training. This means vocational-technical training and guidance for those who desire it. Second, there is a need for a whole new thrust—a career education program, K through post-secondary, so that beginning in the elementary school, young people will become more aware of the world of work and their relationship to it, will have opportunity for personal growth and the development of responsibility, and an opportunity to develop a saleable skill at whatever level they choose to enter the labor market.[1]

The new State Superintendent of Education, who took office in May 1972, has committed himself to developing specific plans, and the 1973 state plan for vocational education incorporates this concept. The 1972 Legislature appropriated $1 million for career education. This $1 million, supplemented by federal matching funds, is being used to develop comprehensive career education models, assess job opportunities and establish new training programs. Approximately $600,000 of the $1 million will be directed to 25 vocational-technical schools for training programs. Three models are being planned and developed to test career education programs so that they may be applied statewide later: (1) urban parish (East Baton Rouge); (2) rural parish (Natchitoches); and (3) a consortium of rural parishes (Ascension, Assumption, Iberville, Lafourche, St. Charles, St. James and St. John). The superintendent has also established a Task Force on Career Education.

LOCAL PILOT AND INNOVATIVE PROGRAMS

The federal government has been encouraging states to become interested in restructuring their educational systems to embody the career education concept, and it has provided funds to finance pilot projects. In addition to the three model projects of the State Department of Education, several other pilot and innovative programs are currently underway in Louisiana, some of which are federally funded.

A research and development project in career education is being conducted in the Calcasieu and Lafayette school systems. A demonstration project for occupational orientation of students in grades seven through 12 is being conducted in Grant and Winn school systems.

The Caddo school system has instituted a career awareness program in grades K-six, a career exploration program through industrial arts in grades seven-nine, career orientation programs in grades 10-12, and specific vocational programs in a careers center in grades 11 and 12.

The Orleans school system has an exemplary program for occupational preparation at Carver High School. Also, a program has been designed to meet the special needs of the severely disadvantaged through the Exemplary Program for Occupational Preparation (EPOP). The EPOP (Model Cities) program involves seven schools in the Desire Project area; it is a pilot program designed to bring about an understanding of the world of work from elementary school through the junior high school level where preemployment job entry skills are taught in two different areas—building and construction trades and food services. Special programs are offered at the senior high level in business education, practical nursing and auto mechanics.

Morehouse Parish offers an industrial arts course at the 10th grade level which serves as an introduction to occupations. Students are rotated at the end of each 6 weeks to teachers in various vocational fields; courses are planned with career information and frequent field trips to give students a realistic view of the "world of work."

Ouachita Parish has instituted a junior high program designed to orient students to the many areas of construction, and plans are being made for a similar program in manufacturing.

The Natchitoches school system is developing an interest-based curricula aimed at correlating academic and vocational material and student interests.

Calcasieu Parish is coordinating its vocational programs with those of Sowela and McNeese so that a student leaving high school can enter postsecondary technical training without having to repeat instruction.

In response to a PAR questionnaire, several school superintendents said they were planning to institute some phase of career education in the near future while a number of superintendents expressed interest in career education. A director of vocational education in one school system stated:

> . . . it seems to me that practically all of the programs need to be changed in terms of a career-centered educational goal so that each program offered would have in it the elements of commonality that would run through a number of career opportunities, so that as students go through the individual program, the opportunities of applicability would be pointed out to them so as to make that particular portion of the course more relevant to the world of work and the realities that will face them upon graduation or dropping out of school. Until we have the opportunity to develop a state wide vocational thrust, it is practically impossible for any particular school district to turn its programs around.[2]

OVERVIEW OF VOCATIONAL-TECHNICAL ENROLLMENTS AND PROGRAMS

Information collected by PAR on enrollments in various vocational-technical programs, i.e., elementary and secondary schools, vocational-technical schools, colleges and universities, and apprenticeship programs, is shown in Table 2. Data obtained on federal man-

Table 2. Enrollments in Louisiana Vocational-Technical Education Programs By Type of Institution

Program[a]	Elementary & Secondary 1969-70	Vocational Technical Schools[b] 1969-70	Colleges & Universities Fall 1971	Apprentice August 1971	Total
AGRICULTURE					
Agriculture Production[c]	10,950	---	---	---	10,950
Animal Science	---	---	---	---	---
Plant Science	---	---	---	---	---
Farm Mech.	---	44	---	---	44
Farm Bus. Mgt.	---	---	---	---	---
Agricultural Supplies & Services	737	---	---	---	737
Agricultural Mech.	3,040	91	---	11	3,142
Agricultural Products	---	---	---	---	---
Ornamental Horticulture	1,176	2	---	---	1,178
Agricultural Resources	---	---	---	---	---
Forestry	---	---	---	---	---
Total Agriculture	15,903	137	0	11	16,051
DISTRIBUTIVE EDUCATION					
Advertising Services	50	118	---	---	168
Apparel & Accessories	481	---	---	---	481
Automotive	---	30	---	---	30
Finance & Credit	43	435	---	---	478
Floristry	---	---	---	---	---
Food Distribution	744	33	---	---	777
Food Services	224	---	---	---	224
General Merchandise	846	474	29	---	1,349
Hardware, Bld. Mat., etc.	---	---	---	---	---
Home Furnishings	84	60	---	---	144
Hotel & Lodging	28	433	---	---	461
Industrial Mktg.	---	---	---	---	---
Insurance	25	---	---	---	25
International Trade	---	---	---	---	---
Personal Services	---	---	---	---	---
Petroleum	225	---	---	---	225
Real Estate	12	---	---	---	12
Recreation & Tourism	---	132	---	---	132
Transportation	---	96	---	---	96
Retail Trade, Other	293	59	---	---	352
Wholesale Trade, Other	95	---	---	---	95
Total Distributive Ed.	3,150	1,870	29	0	5,049
HEALTH					
Dental					
Dental Asst.	---	---	---	---	---
Dental Hygiene (AD)	---	---	55	---	55
Dental Lab Tech.	---	---	---	5	5
Medical Lab Technology	---	---	6	---	6

Table 2 continued

Program[a]	Elementary & Secondary 1969-70	Vocational Technical Schools[b] 1969-70	Colleges & Universities Fall 1971	Apprentice August 1971	Total
Nursing					
Nursing (AD)	---	---	314	---	314
Practical Nursing	78	1,357	---	---	1,435
Nurse Aids	---	784	---	---	784
Psychiatric Aids	---	---	---	---	---
Surgical Tech.	---	13	---	---	13
Obstetrical Tech.	---	---	---	---	---
Home Health Aids	---	62	---	---	62
School Health Aids	---	---	---	---	---
Nursing, Other	---	7	---	---	7
Rehabilitation	---	--	---	---	---
Radiologic Tech. (X-Ray)	---	---	---	---	---
Opthalmic	---	---	---	3	3
Environmental Health	---	---	---	---	---
Mental Health Tech.	---	---	---	---	---
Miscellaneous Health					
Electorencephalographic Tech.	---	---	6	---	6
Electrocardiograph Tech.	---	---	---	---	---
Inhalation Therapy	---	---	---	---	---
Medical Asst.	---	---	---	---	---
Cental Supply Tech.	---	---	---	---	---
Community Health Aide	---	---	---	---	---
Medical Emergency Tech.	---	185	---	---	185
Food Service Super.	---	---	---	---	---
Mortuary Science	---	---	20	---	20
Orthopedic Asst.	---	---	---	---	---
Health Occ. Ed., Other	---	20	---	---	20
Total Health	78	2,428	401	8	2,915
HOME ECONOMICS					
Homemaking (non-occupational)	48,630	---	---	---	48,630
Occupational Preparation					
Care & Guidance of Children	---	50	---	---	50
Clothing Mgt., Production & Service	123	---	---	---	123
Food Mgt., Producduction & Service	345	109	26	---	480
Home Furnishings, Equip., & Service	---	---	---	---	---
Institutional & Home Mgt.	---	31	---	---	31
Occupational, Prep., Other	---	18	---	---	18
Total Home Economics	49,098	08	26	0	49,332
OFFICE OCCUPATIONS					
Accounting & Computing	7,975	2,022	---	---	9,997
Business Data Processing	1,592	1,092	3	---	2,687
Filing, Office Machines, etc.	13,352	708	---	---	14,060

Table 2 continued

Program[a]	Elementary & Secondary 1969-70	Vocational Technical Schools[b] 1969-70	Colleges & Universities Fall 1971	Apprentice August 1971	Total
Information & Communication	3,163	449	---	5	3,617
Materials Support	---	---	---	---	---
Personnel, Training & Rel.	---	---	---	---	---
Stenographic, Secy. & Rel.	7,082	3,537	701	---	11,320
Super., Admin., Mgt.	---	300	---	---	300
Typing & Rel.	18,820	1,700	---	---	20,520
Office Occ., Other	---	30	---	---	30
Total Office Occupations	51,984	9,838	704	5	62,531
Enginnering Rel. Tech.	---	---	---	---	---
Aeronautical Tech.	---	15	39	---	54
Agricultural Tech.	---	25	---	---	25
Architectural Tech.	---	---	10	---	10
Automotive Tech.	---	---	12	---	12
Chemical Tech.	---	---	2	16	18
Civil Tech.	---	97	---	---	97
Electrical Tech.	---	---	22	---	22
Electronics Tech.	14	813	102	---	929
Electro Mechanical Tech.	---	---	---	---	---
Environmental Cont. Tech.	---	---	---	---	---
Industrial Tech.	---	9	---	---	9
Instrumentation Tech.	---	429	---	498	927
Mechanical Tech.	---	90	2	51	143
Metallurgical Tech.	---	---	---	---	---
Nuclear Tech.	---	---	---	---	---
Petroleum Tech.	---	40	---	28	68
Scientific Data Proc.	---	274	---	---	274
Eng. Rel. Tech., Other	---	60	30	---	90
Agricultural Rel. Tech.	---	---	---	---	---
Health Rel. Tech.	---	---	---	---	---
Office Rel. Tech.	---	---	---	---	---
Home Economics Rel. Tech.	---	---	---	---	---
Miscellaneous Tech. Ed.	---	---	---	---	---
Commercial Pilot Training	---	---	---	---	---
Fire & Fire Safety Tech.	---	110	---	---	110
Forestry Tech.	---	---	---	---	---
Oceanographic Tech.	---	---	---	---	---
Police Science	---	40	135	---	175
Misc. Tech. Ed., Other	---	---	379	---	379
Total Technical Education	14	2,002	733	593	3,342
TRADE AND INDUSTRIAL					
Air Conditioning	20	715	---	---	735
Appliance Repair	26	105	---	6	137
Automotive Services[c]	13	---	---	---	13
Body & Fender	111	339	---	19	469
Mechanics	609	1,860	---	74	2,543

Table 2 continued

Program[a]	Elementary & Secondary 1969-70	Vocational Technical Schools[b] 1969-70	Colleges & Universities Fall 1971	Apprentice August 1971	Total
Specialization, Other	—	23	—	11	34
Aviation Occ.	—	334	—	4	338
Blueprint Reading	2	172	—	—	174
Business Machine Maint.	7	36	—	37	80
Commercial Art Occ.	29	84	—	—	113
Commercial Fishery Occ.	128	47	—	—	175
Commercial Photography	5	31	—	1	37
Construction & Maint.	—	—	—	—	—
Carpentry	287	184	—	636	1,107
Electricity	40	213	—	430	683
Heavy Equipment	—	—	—	29	29
Masonry	145	—	—	149	294
Painting & Decorating	—	28	—	165	193
Plastering	—	—	—	92	92
Plumbing & Pipefitting	17	52	—	643	712
Dry Wall Installation	—	—	—	—	—
Glazing	—	—	—	43	43
Roofing	—	—	—	69	69
Construction & Maint., Other	—	—	—	433	433
Custodial Services	—	52	—	—	52
Diesel Mechanics	83	296	—	116	495
Drafting	139	1,131	52	2	1,324
Electrical Occupations	—	546	—	27	573
Electronic Occ.[c]	125	466	—	—	591
Communications	—	138	—	—	138
Industrial Electronics	—	40	—	—	40
Radio & TV	—	721	—	73	794
Fabric Maint. Services	37	—	—	2	39
Foremanship, Supervision, & Mgt.	—	2,429	—	—	2,429
General Continuation (Remedial)	—	378	—	—	378
Graphic Arts Occ.	50	25	1	67	143
Industrial Atomic Energy (Radiography)	—	37	—	—	37
Watchmaking & Repair	—	53	—	4	57
Maritime Occ.	—	112	—	—	112
Metalworking[c]	628	—	—	—	628
Foundry	—	—	—	11	11
Machine Shop	—	512	—	133	645
Machine Tool Oper.	—	44	—	1	45
Metal Trades, Combined	—	—	—	—	—
Sheetmetal	—	70	—	167	237
Welding & Cutting	—	3,756	—	12	3,768
Tool & Dye Making	—	—	—	11	11
Dye Sinking	—	—	—	—	—
Metal Pattern Making	—	—	—	—	—
Metal Working, Other	—	38	—	5	43
Metallurgy	—	—	—	—	—
Personal Services	—	—	—	—	—
Barbering	—	74	—	—	74
Cosmetology	141	148	—	—	289
Plastics Occ.	—	—	—	—	—

Table 2 continued

Program[a]	Elementary & Secondary 1969-70	Vocational Technical Schools[b] 1969-70	Colleges & Universities Fall 1971	Apprentice August 1971	Total
Public Service	---	---	---	---	---
Firemen Training	---	---	---	---	---
Law Enforcement	---	46	---	---	46
Quantity Foods[c]	37	69	---	---	106
Baker	---	---	---	1	1
Cook/Chef	---	53	---	2	55
Meat Cutter	---	44	---	20	64
Refrigeration	25	147	---	37	209
Small Engine Repair	3	44	---	2	49
Stationary Energy Services	---	21	---	3	24
Textile Prod. & Fabrication	---	477	---	4	481
Leatherworking	61	---	---	1	62
Upholstering	---	82	---	1	83
Woodworking	146	54	2	9	211
Total Trade & Industry	2,914	16,326	55	3,552	22,847
GRAND TOTAL	123,141	32,809	1,948	4,169	162,067

[a] All enrollments have been converted to the U. S. Office of Education Classification Code.

[b] Secondary cooperative students and apprentices have been deleted from the vocational-technical school figures.

[c] Enrollments in the subcategories are not duplicated in the major category.

SOURCE: PAR questionnaires to Louisiana vocational-technical schools and colleges and universities; the Louisiana State Department of Education; and the Louisiana State Apprenticeship Council.

power programs, private vocational-technical schools and industry programs was incomplete and, hence, is not included.

Most enrollments in vocational-technical programs were in the secondary schools. However, almost a third of the secondary students were enrolled in nonoccupational home economics courses, and most of the remainder of high school students were in office occupations. (See Table 3.)

Most students enrolled in agricultural programs were in secondary schools. Distributive education accounted for a very small proportion of enrollments in each type of institution. Health programs, on the other hand, made up 20.7 percent of those enrolled in colleges and universities even though such students represented only 1.8 percent of Louisiana's total vocational-technical enrollment. All of the different types of institutions except the apprenticeship program had at least a third of their vocational-technical students in office occupations.

Vocational-technical schools and apprentice training put greatest emphasis on trade and industrial programs; 49.8 percent of vocation-

Table 3. Summary of Enrollments in Louisiana Vocational-Technical Programs By Type of Institution

Programs[a]	Elem. & Secon.		Voc-Tech Schools		Postsecondary		Apprentice		Total	
	Enrollments 1969-70	% of Total	Enrollments 1969-70	% of Total	Enrollments Fall 1971	% of Total	Enrollments Aug. 1971	% of Total	Enrollments	% of Total
Agriculture	15,903	12.9	137	0.4	0	0	11	0.3	16,051	9.9
Distributive Ed.	3,150	2.6	1,870	5.7	29	1.5	0	0	5,049	3.1
Health	78	0.1	2,428	7.4	401	20.7	8	0.2	2,915	1.8
Home Economics	49,098	39.9	208	0.6	18	0.9	0	0	49,324	30.4
Office Occupations	51,984	42.2	9,838	30.0	704	36.3	5	0.1	62,531	38.6
Technical Ed.	14	0	2,002	6.1	733	37.8	593	14.2	3,342	2.1
Trades & Industry	2,914	2.4	16,326	49.8	55	2.8	3,552	85.2	22,847	14.1
TOTAL	123,141	100.0	32,809	100.0	1,940	100.0	4,169	100.0	162,059	100.0

[a] All enrollments have been converted to the U. S. Office of Education Classification Code.

SOURCE: PAR questionnaires to Louisiana vocational-technical schools and colleges and universities; the Louisiana State Department of Education; and the Louisiana State Apprenticeship Council.

al-technical school enrollments and 85.2 percent of apprentice trainees were enrolled in these programs.

Colleges and universities placed greatest emphasis in the technical field: 37.8 percent of the collegiate vocational-technical students were in technical programs, although technical programs comprised only 2.1 percent of total college enrollments.

There appears to be little overlap in program offerings among the different types of institutions except in the field of office occupations. Even though apprenticeship programs and vocational-technical schools had a large proportion of their students enrolled in trade and industrial programs, these were largely different types of programs.

TRENDS IN FEDERALLY FUNDED PROGRAMS

The federal government requires the reporting of certain data on programs receiving federal funds. While such data does not give a complete picture of all vocational-technical programs within a state, it does give some insight into trends from year to year. Programs which have received no federal funds and hence have been excluded from federal data include industrial arts programs, apprenticeship programs, and many programs in institutions of higher education. Industrial arts programs became eligible for federal funding in 1972.

Table 4 indicates that almost three fourths of students in federally funded programs in Louisiana were in high school; the proportion grew from 69.8 percent in fiscal 1969 to 72.4 percent in fiscal 1971. As shown in Table 5, most of the vocational teachers were also in secondary schools—57.7 percent in fiscal 1971. The number of students enrolled in adult programs as well as the number of teachers in these programs declined significantly in fiscal 1970 due primarily to budget cuts.

The largest proportion of students in federally funded programs was in office occupations, although the proportion declined from 39.5 percent in fiscal 1969 to 34.4 percent in fiscal 1971. The next largest proportion was in home economics, and this proportion increased from 26.9 percent in fiscal 1969 to 31.2 percent in fiscal 1971. (See Table 6.) As would be expected, the largest proportion of teachers was in office occupations and home economics programs. (See Table 7.)

INTERSTATE COMPARISONS OF FEDERAL PROGRAMS

Data required by the federal government permits a limited comparison of Louisiana's vocational-technical programs with those of other states.

Tables 8 and 9 indicate recent trends in vocational education enrollments in Louisiana and the United States for federally funded programs. Louisiana has not kept pace with the nation in either the increase in enrollments or expenditures. From 1965 through 1971, vocational enrollments in Louisiana increased 68.1 percent compared to a 77.3 percent increase for the United States. (See Table 8.) During the same period, Louisiana's expenditures for federally funded vocational education programs increased 122.8 percent compared to 255.6 percent for the nation. (See Table 9.)

Federal law requires that states match federal funds, but the ratios vary by programs. Actually, all states overmatch federal dollars, but Louisiana matches less than any other state. Louisiana's source of funding for vocational education in fiscal 1969-70 was 37.5 percent from federal funds and 62.5 percent from state and local sources, thus ranking Louisiana lowest among the 50 states in the proportion of state and local funds made available for federal matching. The average for all states was 16.3 percent from federal funds and 83.7 percent from state and local revenues. (See Table 10.)

Another measure of state effort is the ratio of total dollars spent for each $1 of federal funds. During fiscal 1969-70, Louisiana spent $1.67 for every $1 of federal funds, ranking next to last among the 50 states. The average among states was $5.14 spent by states for each $1 of federal funds, with a range of from $22.96 in Massachusetts to $1.14 in Delaware.

States differ considerably in their emphasis on the level of train-

Table 4. Louisiana Vocational Education Enrollments, By Level (Federally Funded Programs)

Level	Fiscal 1969	% of Total	Fiscal 1970	% of Total	Fiscal 1971	% of Total
Secondary	117,073	69.8	123,141	74.4	126,281	72.4
Postsecondary	16,282	9.7	15,801	9.5	19,076	10.9
Adult	33,196	19.8	26,539	16.0	29,046	16.7
Special Needs	1,075	0.6	---		---	
TOTAL	167,626	100.0	165,481	100.0	174,403	100.0

SOURCE: Louisiana State Department of Education.

Table 5. Louisiana Vocational Education Teachers[a], By Level (Federally Funded Programs)

Level	Fiscal 1969	% of Total	Fiscal 1970	% of Total	Fiscal 1971	% of Total
Secondary	1,838	58.2	1,915	59.5	2,070	57.7
Postsecondary	493	15.6	571	17.7	659	18.3
Adult	789	25.0	735	22.8	861	24.0
Special Needs	37	1.2	---		---	
TOTAL	3,157	100.0	3,221	100.0	3,590	100.0

[a] Duplicated totals due to some teachers teaching in more than one level through cooperative arrangements.

SOURCE: Louisiana State Department of Education.

Table 6. Louisiana Vocational Education Enrollments, By Programs (Federally Funded Programs)

Program Area	Fiscal 1969	% of Total	Fiscal 1970	% of Total	Fiscal 1971	% of Total
Agriculture	18,423	11.0	17,442	10.5	19,962	11.4
Distribution	9,204	5.5	8,021	4.8	9,304	5.3
Health	2,958	1.8	2,635	1.6	3,378	1.9
Home Economics	45,145	26.9	50,786	30.7	54,491	31.2
Office	66,223	39.5	62,815	38.0	60,006	34.4
Technical	3,870	2.3	2,929	1.8	3,553	2.0
Trades & Industry	21,803	13.0	20,853	12.6	23,709	13.6
TOTAL	167,626	100.0	165,481	100.0	174,403	100.0

SOURCE: Louisiana State Department of Education.

Table 7. Louisiana Vocational Education Teachers[a], By Program (Federally Funded Programs)

Program Area	Fiscal 1969	% of Total	Fiscal 1970	% of Total	Fiscal 1971	% of Total
Agriculture	261	9.5	284	10.7	295	10.1
Distribution	192	7.0	162	6.1	171	5.8
Health	127	4.6	119	4.5	129	4.4
Home Economics	569	20.7	672	25.3	731	24.9
Office	1,067	38.9	850	32.0	946	32.3
Technical	111	4.0	122	4.6	154	5.3
Trades & Industry	417	15.2	447	16.8	505	17.2
TOTAL	2,744	100.0	2,656	100.0	2,931	100.0

SOURCE: Louisiana State Department of Education.

Table 8. Trend in Vocational Education Enrollments (Federally Funded Programs)

Fiscal Year	Louisiana	% Annual Increase	United States	% Annual Increase
1965	103,778	—	5,430,611	---
1966	110,117	6.1	6,070,059	11.8
1967	121,915	10.7	7,047,501	16.1
1968	154,823	27.0	7,533,936	6.9
1969	167,626	8.3	7,979,366	5.9
1970	165,481	-1.3	8,793,960	10.2
1971	174,403	5.4	9,631,250[a]	9.5
% Increase, 1965-1971		68.1		77.3

[a]Estimate.

SOURCE: U. S. Office of Education's *Vocational and Technical Education Annual Reports* and the Louisiana Department of Education.

Table 9. Trend in Vocational Education Expenditures (Federally Funded Programs) (In Thousands)

Fiscal Year	Louisiana	% Yearly Increase	United States	% Yearly Increase
1965	$10,415	—	$ 604,646	---
1966	14,404	38.3	799,895	32.3
1967	15,672	8.8	1,004,133	25.5
1968	15,900	1.5	1,192,965	18.8
1969	16,138	1.5	1,368,757	14.7
1970	18,822	16.6	1,841,846	34.6
1971	23,209	23.3	2,150,000[a]	16.7
% Increase, 1965-1971		122.8		255.6

[a]Estimate.

SOURCE: U. S. Office of Education's *Vocational and Technical Education Annual Reports* and the Louisiana Department of Education.

ing in federally funded vocational education. According to federal reporting categories, there are three levels of training: secondary (through grade 12); postsecondary (youths or adults who have completed or left high school and are available for an organized program of study to prepare to enter the labor market); and adult (training and retraining of persons who have already entered the labor market and are either employed or seeking employment). For fiscal 1969-70, almost three fourths of Louisiana's vocational enrollment was in secondary programs compared to slightly over half for the United States. On the other hand, Wisconsin had only one fifth of its vocational enrollment in the secondary schools while almost two thirds of its enrollment was in adult programs. (See Table 11.)

As previously noted, much of the reported high school vocational enrollment is in programs which do not offer training for gainful employment. It is at the postsecondary and adult levels where specific skills for a job are acquired above the rudimentary entry level.

Table 10. Expenditures for Vocational Education, By State, Fiscal 1969-70 (Federally Funded Programs)

State	Total Expenditures In Thousands	% Federal	% State/Local	Rank In Federal Matching
Alabama	$ 27,672	19.7	80.3	18
Alaska	3,290	22.9	77.1	27
Arizona	11,212	26.9	73.1	37
Arkansas	11,308	32.9	67.1	8
California	191,124	13.2	86.8	46
Colorado	12,542	26.2	73.8	34
Connecticut	23,090	9.8	90.2	3
Delaware	2,164	14.9	85.1	10
Florida	41,687	21.5	78.5	24
Georgia	30,936	21.2	78.8	23
Hawaii	5,035	26.9	73.1	37
Idaho	4,773	27.6	72.4	39
Illinois	130,416	11.4	88.6	6
Indiana	23,553	37.1	62.9	49
Iowa	25,229	13.7	86.3	9
Kansas	13,719	27.8	72.2	40
Kentucky	28,064	20.2	79.8	21
Louisiana	18,822	37.5	62.5	50
Maine	6,467	28.1	71.9	41
Maryland	36,385	11.3	88.7	5
Massachusetts	100,570	4.2	95.8	1
Michigan	52,550	26.7	73.3	36
Minnesota	37,663	16.9	83.1	14
Mississippi	16,081	32.0	68.0	45
Missouri	35,181	18.5	81.5	15
Montana	6,002	25.2	74.8	33
Nebraska	7,471	29.7	70.3	42
Nevada	3,416	18.8	81.2	16
New Hampshire	3,919	21.9	78.1	25
New Jersey	36,038	24.9	75.1	31
New Mexico	6,668	36.5	63.5	48
New York	255,127	5.8	94.2	2
North Carolina	66,878	14.9	85.1	10
North Dakota	4,764	26.3	73.7	35
Ohio	102,743	14.9	85.1	10
Oklahoma	19,881	21.9	78.1	26
Oregon	11,746	24.2	75.8	30
Pennsylvania	110,395	15.0	85.0	13
Rhode Island	5,111	19.9	80.1	19
South Carolina	19,635	24.9	75.1	31
South Dakota	4,050	31.1	68.9	43
Tennessee	24,589	31.3	68.7	44
Texas	80,940	24.0	76.0	29
Utah	12,441	20.0	80.0	20
Vermont	5,456	19.1	80.9	17
Virginia	32,438	23.2	76.8	28
Washington	38,385	10.0	90.0	4
West Virginia	11,356	34.2	65.8	47
Wisconsin	55,504	11.7	88.3	7
Wyoming	4,436	21.0	79.0	22
TOTAL	$1,841,846[a]	16.3	83.7	

[a] Includes District of Columbia, American Samoa, Guam, Puerto Rico, Trust Territories and Virgin Islands.

SOURCE: U. S. Office of Education, *Summary Data, Vocational Education, Fiscal Year 1970* (Washington, D. C.: March 1971), 11.

Table 11. Enrollments in Vocational Education Programs, By State, Fiscal 1969-70 (Federally Funded Programs)

State	Total Enrollments	% Secondary	% Postsecondary	% Adult
Alabama	153,721	59.8	10.0	30.2
Alaska	7,370	83.0	11.2	5.8
Arizona	78,097	53.4	12.2	34.4
Arkansas	101,652	56.3	6.3	37.4
California	895,330	45.3	34.2	20.5
Colorado	106,821	45.3	15.7	39.0
Connecticut	91,204	61.7	7.1	31.3
Delaware	49,853	92.3	1.4	6.2
Florida	474,010	39.3	24.9	35.8
Georgia	298,619	58.0	5.7	36.3
Hawaii	39,764	68.8	14.5	16.7
Idaho	27,444	74.2	8.9	16.9
Illinois	626,740	84.4	7.7	7.9
Indiana	119,607	65.7	4.7	29.6
Iowa	106,626	40.7	10.4	48.8
Kansas	76,766	41.1	6.8	52.0
Kentucky	127,783	61.8	5.7	32.5
Louisiana	165,481	74.4	9.5	16.0
Maine	19,097	68.1	8.4	23.6
Maryland	102,416	74.5	5.8	19.7
Massachusetts	142,386	58.2	11.6	30.3
Michigan	327,235	52.0	10.7	37.3
Minnesota	240,766	56.8	7.0	36.2
Mississippi	103,352	56.8	6.6	36.6
Missouri	144,338	67.2	6.3	26.5
Montana	24,533	73.9	8.7	17.3
Nebraska	60,583	57.0	6.6	36.5
Nevada	13,867	60.1	8.4	31.5
New Hampshire	35,773	85.5	4.5	10.0
New Jersey	152,532	77.0	4.9	18.1
New Mexico	34,428	63.4	14.3	22.3
New York	732,467	72.0	7.4	20.6
North Carolina	363,187	53.8	8.8	37.3
North Dakota	21,888	65.0	16.7	18.3
Ohio	331,739	42.8	3.0	54.2
Oklahoma	104,017	61.5	3.3	35.2
Oregon	103,694	61.6	15.5	22.9
Pennsylvania	333,903	59.9	6.2	33.9
Rhode Island	16,004	66.0	5.1	28.9
South Carolina	118,548	62.2	2.7	35.1
South Dakota	22,944	68.1	7.0	24.9
Tennessee	137,460	66.3	9.8	23.9
Texas	510,633	52.4	5.6	42.0
Utah	87,061	60.4	11.6	28.0
Vermont	10,948	74.6	1.3	24.2
Virginia	273,357	65.8	3.4	30.8
Washington	215,358	51.6	20.3	28.1
West Virginia	52,918	61.9	2.6	35.5
Wisconsin	244,605	20.9	14.4	64.7
Wyoming	17,883	87.3	7.2	5.5
TOTAL	8,793,960[a]	58.2	11.5	30.3

[a] Includes District of Columbia, American Samoa, Guam, Puerto Rico, Trust Territories and the Virgin Islands.

SOURCE: U. S. Office of Education, *Summary Data, Vocational Education, Fiscal Year 1970* (Washington, D.C.: March 1971) 10.

STATE ADMINISTRATION OF VOCATIONAL-TECHNICAL EDUCATION

The State Board of Education is designated as the State Board for Vocational Education in Louisiana, as is done in all but seven other states. The state superintendent of education, as executive officer and secretary of the State Board of Education, is charged with furnishing leadership and providing general direction to the vocational education programs, services and activities of the state. The superintendent establishes such divisions and positions in the State Department of Education as he deems appropriate, selects and employs personnel, fixes their salaries and defines their duties. The function of the state department is to provide planning, advisory services, coordination, research, public relations and in-service education.

The state board, in compliance with the Vocational Education Amendments of 1968, submits a state plan for vocational education to the U. S. Office of Education.

The State Plan for the Administration of Vocational Education is the instrument through which vocational education programs are defined, structured and operated. However, it is concerned only with vocational education programs which are administered by the state board and which are eligible for federal funding.

Also in compliance with the Vocational Education Amendments of 1968, there is a State Advisory Council for Vocational and Technical Education, which meets throughout the year, publishes an annual report which reviews vocational education in Louisiana and makes recommendations for its improvement.

The State Board of Education does not administer all vocational-technical education programs in Louisiana. The Louisiana State University system is administered by the LSU Board of Supervisors. Manpower training programs are administered through a vast assortment of federal, state, local and private agencies. Private programs generally are operated independently of state governmental agencies.

DEPARTMENTAL RESEARCH

There are presently two research units within the Louisiana State Department of Education—a Research Section under the Division of Management Research and Finance and a Research Coordinating Unit under the Division of Career Education, Bureau of Vocational Education.

The research efforts in the department have been essentially directed toward preparing routine reports and contracting for federally funded experimental projects. Vocational education research has been organizationally separated from general education research. Neither unit has been given the capability for providing inhouse research assistance to planners and administrators.

INSTITUTIONS PROVIDING VOCATIONAL-TECHNICAL PROGRAMS

The PAR survey of vocational-technical education in Louisiana gathered information from the following types of institutions and programs.

1. Elementary-Secondary Schools.
2. Vocational-Technical Schools.
3. Institutions of Higher Education.
4. Manpower Programs.
5. Apprenticeship Programs.
6. Private or Proprietary Schools.
7. Industry Programs.

The primary method of obtaining information was through questionnaires. Data was also obtained from published and unpublished reports of various agencies and from interviews.

The survey also includes a brief description of current developments in career education.

ELEMENTARY-SECONDARY SCHOOLS

Elementary and secondary schools should represent the most important phase of education since the formative years have a tremendous impact throughout one's lifetime. Elementary and secondary education is particularly important in Louisiana since many students do not continue their education beyond high school, and far too many do not even complete high school. Since elementary and secondary schools are the only source of a formal education and job training for many, it is important that they be geared to meeting diverse needs.

Elementary-secondary programs in Louisiana's public schools are administered by 66 separate schools systems (64 parish and two city systems) with limited supervision from the State Board and Department of Education. PAR's survey found that curriculum and emphasis varied tremendously in format, content and quality among the various systems as well as among individual schools.

VOCATIONAL-TECHNICAL PROGRAMS

The largest enrollments in vocational programs in Louisiana were at the high school level. The programs tended to be traditional ones—particularly home economics and agriculture—which were stimulated through federal funds dating back to the Smith-Hughes Act of 1917.

A total of 159,358 students in grades nine through 12 participated in public vocational education programs during the 1970-71 school year, representing over two thirds (68.7 percent) of all those enrolled in public high schools. However, this does not mean that all these students were preparing for employment. Many recorded as taking vocational training may have taken only one class during the school year. Also, most of those enrolled were either taking nonoccupational or exploratory programs. Only 74,235 students, or 32 percent of total high school registration, were enrolled in vocational courses which provided occupational preparation.

Table 12 indicates the programs in which students were enrolled in Louisiana's public high schools during the 1970-71 school year, the number of local school systems out of the 66 in which such training was taught, the percentage that the number enrolled by program represented of the total enrolled for vocational

Table 12. Louisiana Public High School Students Enrolled in Vocational Programs, 1970-71

Program	Number Enrolled	Number School System[a]	% of Total Enrolled in Vocational Programs	% of Total Enrolled in High School
Agriculture	18,169	57	11.4	7.8
Business and Office	48,067	63	30.2	20.7
Distributive	3,819	26	2.4	1.6
Health	99	1	0.1	b
Home Economics	52,731	64	33.1	22.7
(Gainful)	(715)		(0.4)	(0.3)
Industrial Arts	33,107	63	20.8	14.3
Technical	17	0	b	b
Trade and Industrial	3,349	38	2.1	1.4
TOTAL	159,358		100.0	

[a] Number among 66 local school systems.

[b] Less than 0.1 percent.

SOURCE: Louisiana State Department of Education.

training, and the percentage that the number enrolled by program represented of the total high school registration.

Agriculture: Agricultural education is one of the oldest vocational programs in the state and still has one of the largest enrollments, despite the fact that agriculture no longer dominates the state's economy. Of the 18,169 high school students enrolled in agriculture in 1970-71, almost three fourths (72.6 percent) were in agricultural production; 2,331 were in agricultural mechanics; 1,154 were in agricultural supplies and services; and 1,404 were in horticulture and forestry.

Business and Office: Almost a third (48,067) of those enrolled in vocational programs in 1970-71 took business and office courses. Typing had the largest enrollment (16,772), followed by 11,544 students in programs teaching filing and use of office machines; 8,181 in accounting and computing; 6,929 in stenography; 2,997 in information communications; and 1,644 in business data processing.

Distributive Education: Distributive education courses are aimed at training students in marketing of goods or services such as selling, sales promotion, management, service skills and business calculations. Cooperative arrangements with businesses, whereby students spend part of their school day working, form an important part of this program. During 1970-71, only 3,819 students enrolled. The largest enrollments were in food distribution, general merchandising, and apparel and accessories.

Health: The Orleans school system was the only one in the state that provided training in health occupations during 1970-71, with 99 students enrolled in practical nursing. However, several other school systems instituted health programs during the 1971-72 school year, and others are considering such programs.

Home Economics: Home economics attracts the largest number of students among the vocational programs, although most take courses in homemaking which are not geared toward wage-earning. Of the 52,731 home economics students enrolled in 1970-71, only 715 participated in courses oriented toward gainful employment (24 in care and guidance of children; 168 in clothing services; 497 in food services; and 26 in institutional and home management services.)

Industrial Arts: Industrial arts is a program of orientation and exploration rather than specific job training. It attempts to provide a basic understanding of the functions, technology and occupational opportunities in industry and to allow students to begin developing skills that will be needed in further vocational training. Students are usually exposed to a series of exploratory experiences in areas such as drafting, woodworking, metalwork and power mechanics. Industrial arts enrollments have not been included in Louisiana's previous state plans for vocational-technical education although 33,107 students took such courses in 1970-71. Such enrollments should be included in future plans since federal funds were authorized for industrial arts courses in 1972.

Technical: Technical courses are not offered within the high school curricula, but 17 high school students took such courses in 1970-71 by availing themselves of courses taught at the vocational-technical schools.

Trade and Industrial: The broad area of crafts and industrial skills are encompassed in trade and industrial education. The courses most often taken by the 2,451 students enrolled in this program in 1970-71 included auto mechanics, carpentry and metalwork. Several high schools also offered such courses as masonry, drafting, body and fender work, cosmetology and woodwork.

GUIDANCE COUNSELORS

There were 852 counselors in the public elementary and secondary schools in 1970-71. Of these, 691 were full-time counselors and 161 were part-time; 794 were certified. There were 5,731 elementary students for every elementary counselor and 437 secondary students for every secondary counselor. Of a total 2,410 public schools, 635, or less than half, had counselors. Approximately $6 million was spent for guidance in fiscal 1970-71.

To be certified as a counselor in the public schools, an applicant most hold a teaching certificate, have 3 years' experience in education, and hold a master's degree in guidance and counseling or an equivalent.

The elementary-secondary guidance system in Louisiana is plagued with four acute problems:

1. There are too few counselors in the public schools. Both national and state authorities suggest ratios of 400 students per counselor at the elementary level and 300 students per counselor at the secondary level, far above Louisiana's ratios but the same as Louisiana's goals by 1976 as established in the 1972 state plan.

The State Board of Education, on April 23, 1972, reversed its previous position because it felt sufficient money to fund these ratios was not available. The new goal is one counselor for each 750 elementary students and one per 500 at the secondary level, with every school having at least one part-time counselor. The policy also calls for another counselor for each additional 500 pupils in a school. This goal is to be achieved by 1977.

2. Understaffing of counselor services is worse than the ratios indicate, for many counselors must spend a great deal of their time doing administrative and clerical work.

3. Many counselors, college-oriented themselves, are not well prepared to provide the proper assistance to students not wishing to go to college. Few are aware of the educational alternatives to colleges and few have expertise in or knowledge of nonprofessional occupations.

4. No comprehensive system of educational employment information, necessary for knowledgeable counseling, is available to counselors.

COOPERATIVE PROGRAMS WITH VOCATIONAL-TECHNICAL SCHOOLS

Very few high school students participate in cooperative programs in which they spend part of their school days at vocational-technical schools acquiring specific job training. During the school year 1970-71, only 1,015 high school students, or 0.6 percent of those taking vocational courses, utilized vocational-technical schools to supplement their high school education. There are several reasons why so few high school students avail themselves of opportunities offered in vocational-technical schools:

1. Vocational-technical schools are not within commuting distance of many high schools.

2. There are problems coordinating class schedules and transporting students between the high school and vocational-technical school.

3. In some parishes where a vocational-technical school exists, there is a lack of communication between the local school superintendent and the vocational school.

4. Because of limited facilities and funds, vocational-technical schools are unable to accommodate adults and postsecondary students seeking admission, and have given low priority to admission of high school students.

5. Funds are appropriated separately to local school boards and to the vocational-technical schools. The vocational-technical schools may refuse to enroll high school students on a shared basis because local school systems will not assume a portion of the financial obligation.

6. State Board of Education policy discourages admission of high school students to the vocational-technical schools by providing that such students may not be admitted unless there is already a class with 10 adults and the class has openings.

7. The cooperative program was more extensive a few years ago but has been discouraged in recent years because of concern that the state was providing funds to both the high schools and vocational-technical schools for the same students, thus paying twice for the same students.

ADULT PROGRAMS OFFERED BY LOCAL SCHOOL SYSTEMS

Most school systems which offer vocational training to high school students also have evening programs for adults. During 1970-71 a total of 6,379 adults participated in such courses: 1,793 in agricultural education; 654 in business and office education; 2,180 in distributive education; 1,367 in home economics; 190 in trade and industrial education; and 195 in health education. Most of these programs are designed to upgrade or retrain adults.

13TH AND 14TH YEAR PROGRAMS

Interest has arisen in establishing 13th and 14th grades on top of the existing 12 grades in the public school system. Two pilot programs were established several years ago—the St. Bernard Parish Community College and the Airline Community College in Bossier. These schools have business and secretarial courses in the vocational field, but curricula has been primarily traditional college academic programs. No degrees are conferred. Following establishment of these pilot programs, Act 391 of 1970 authorized every parish school board to extend the curricula of any high school to include a 13th and 14th year, with the approval of the State Board of Education and the Coordinating Council for Higher Education. Under this law, interest has now developed in devoting these two additional grades to vocational-technical education. The State Board of Education approved the 13th and 14th year for East Baton Rouge Parish while the coordinating council denied the request. In fact, the council's master plan recommends that the enabling legislation permitting 13th and 14th grades be repealed and that, in its stead, educational opportunities be expanded within high schools, existing vocational-technical schools and institutions of higher education, thus not adding another layer to the state's educational structure and avoiding duplicative and competitive programs.

Opposing bills were introduced during the 1972 regular session: HB 79 and SB 400 would have repealed authority of local school boards to establish new 13th and 14th grade programs, while HB 837 and SB 571 would have facilitated establishment of such programs by requiring approval of the State Board of Education but not the Coordinating Council for Higher Education. All of these bills were defeated.

COMMENTS

The need for more vocational-technical training is recognized by Louisiana's public school superintendents and their staff. In response to a PAR questionnaire to which 60 of the 66 superintendents replied, 42 felt that the need for more vocational training in their parishes was critical and the remaining 18 felt that the need was moderate. None of the superintendents felt that needs were being met. However, public school administrators are turning increasingly to their own resources rather than vocational-technical schools to provide vocational training, but their efforts have been limited by lack of funds in most instances. Those local school systems that do have funds available for vocational training have been able to afford only a limited program, reaching just a small proportion of high school students.

There are other problems that local school officials face in trying to institute vocational-technical programs. They have virtually no experience with vocational education other than with the traditional programs of agriculture, home economics, industrial arts and office education. While many school administrators have begun to be concerned about vocational training, too few have acquired the expertise required to develop a quality program. Only 10 of 60 school systems responding to PAR's questionnaire indicated that they had a specialist directing their vocational program. Without expertise in vocational training, school administrators whose training is academic can become infatuated with the first programs they hear about; they have little ability to judge the advisability of instituting these programs. Results could be disastrous since persons ill-trained can be worse than those with no training at all. Unfortunately, the State Department of Education has not supplied vital information needed by local school systems in such areas as manpower needs, curricula planning, equipment requirements and design of facilities.

Another problem involved in offering vocational programs at the high school level is that, despite consolidation, fewer than one out of six high schools in Louisiana have over 1,000 students in grades nine through 12. Even a high school with 1,000 students can offer only a few occupational programs since only a portion of students will enroll. The Ohio Advisory Council for Vocational Education found that a 4-year high school with a minimum of 1,500 students is not large enough to justify a comprehensive vocational program since it permits only about seven occupational offerings.

Some school systems are attempting to provide a wider range of vocational training through several avenues. Orleans has established two vocationally oriented high schools, and Sulphur also has a vocational-technical high school. Evangeline Parish is planning a vocational-technical high school to serve juniors and seniors from seven schools in the parish. Caddo, Bossier and St. Landry parishes have opened vocational centers to which students are transported from their high school for vocational training, and several other parishes plan to establish similar centers. In Morehouse Parish there are cooperative arrangements among high schools, and students are bussed for a part of the day from their high school to another that offers a vocational curriculum they wish to pursue. Webster Parish is planning a high school program for training in occupational courses based on curricula developed by local industries.

VOCATIONAL-TECHNICAL SCHOOLS

Louisiana has a state-administered and financed system of 33 vocational-technical schools, formerly called trade schools, which provides vocational-technical education to a great variety of students—high school dropouts, high school students, high school graduates, college dropouts and college graduates, ranging in age from 16 to 60. They provide most of the public, postsecondary vocational-technical education offered in Louisiana. Although these schools vary considerably in size and complexity, all offer about the same type of programs—nondegree vocational-technical courses of study. Delgado Junior College in New Orleans also offers some academic courses and awards associate degrees in a number of subject areas.

HISTORY OF VOCATIONAL-TECHNICAL SCHOOLS IN LOUISIANA

Vocational-technical schools are a relatively new concept in most states, but Louisiana has had them for almost 40 years.

The first of these schools, initially called trade schools, was Sullivan in Bogalusa which was established by the Washington Parish School Board in 1931 as part of its parish school system. This school did not remain long under local control; in 1934 the property was deeded to the State Board of Education, and the Legislature appropriated funds for its operation. Thus began the nucleus of Louisiana's state-operated and financed vocational-technical schools.

The second school was also established through local initiative 2 years later in 1936 when the Legislature provided for transfer of property from the Caddo Parish School Board to the state, and the Shreveport Trades School (now moved to another site and called the Shreveport-Bossier Vocational-Technical Center) came into being.

More schools followed in rapid succession. In 1938 the Legislature created four schools: Huey P. Long at Winnfield, T. H. Harris at Opelousas, Southwest Louisiana at Crowley and Sowela at Lake Charles. The seventh school at Natchitoches was established in 1940, and the Avoyelles school at Cottonport was created in 1942.

In 1944 the state took over defense training schools at West Monroe (Ouachita Valley) and Baton Rouge. The total climbed to 13 in 1948 when three more schools were established: South Louisiana at Houma, Jefferson Davis at Jennings and Jefferson Parish at Gretna.

The number almost doubled in 1950 when the Legislature established 11 additional schools, including the first one for blacks—Capitol Area in Baton Rouge. The other 10 schools established at that time were Bienville at Ringgold, Concordia Parish at Ferriday, Franklin (Northeast Louisiana) at Winnsboro, Iberia (Teche Area) at New Iberia, Memorial Area at New Roads, Minden (Northwest Louisiana) at Minden, Sabine Valley at Many, St. Helena (Florida Parishes) at Greensburg, Union (North Central Area) at Farmerville and Vermilion (Gulf Area) at Abbeville.

Two additional schools for blacks were created in 1954: Central Area at Natchitoches and Orleans Area at New Orleans. Four more black vocational schools were established during the period 1956-1964: Westside at Plaquemine (1956), Delta Area at Monroe (1956), Opelousas Area at Opelousas (1962), and Evangeline Area at St. Martinville (1964).

Funds from a 1960 bond issue were used to establish Young Memorial at Morgan City and Hammond Area at Hammond in 1964. In 1965 a school at Alexandria was established and the Avoyelles school at Cottonport became a branch of the Alexandria facility. The 1971 Legislature appropriated $72,750 to begin a new school in Evangeline Parish (Ville Platte), but it has not yet been built.

Previously some of the schools had area shops at other locations, and presently some schools have branches: Jefferson Parish in Gretna has a shop at Harvey and a major facility in Metairie; Huey P. Long in Winnfield has classes in Jena; Memorial Area at New Roads teaches classes at the Louisiana State Penitentiary at Angola and at the Louisiana Correctional Institute for Women at St. Gabriel; Sowela teaches classes at the Louisiana Training Institute at DeQuincy; Sabine Valley in Many has facilities at Mt. Carmel; and Alexandria operates facilities at Cottonport. The Bienville facility at Ringgold became a branch of Northwest Louisiana at Minden in July 1972. A branch of Sullivan at Slidell began operations in the fall of 1972.

Delgado has undergone quite a metamorphosis in name, administration and curricula. It began operation in 1921 as the Delgado Central Trades School under the administration of the City of New Orleans. The name was changed to the Delgado Trades and Technical Institute in 1958 and to the Delgado Institute of Technology in 1962 when a Rehabilitation Center and collegiate programs were added. In 1966 the Legislature and the New Orleans City Council recognized Delgado as a junior college. Act 446 of 1970 renamed the institution the Delgado Vocational-Technical Junior College, authorized transfer from the City of New Orleans to the State Board of Education upon approval of contractual arrangements between the two, and provided that Delgado be operated as a vocational-technical institution, including "trades school, apprenticeship and transfer programs." The transfer to the state was undertaken by the State Board of Education in November 1970. Delgado is the only comprehensive junior college existing in Louisiana and is by far the largest and most complex of Louisiana's vocational-technical schools.

Other Schools and Branches Authorized

Additional schools have been authorized for a number of other localities, but no funds have been provided to establish them. Main facilities have been authorized for Ascension Parish (1966), Catahoula Parish (1964), DeSoto Parish (1972), East Feliciana Parish (1972), Jackson Parish (1970), Westbank Jefferson Parish (1972), Harvey Industrial Canal Area of Jefferson Parish (1972), Lafayette Parish (1938 and 1964), Lafourche Parish (1964), Morehouse Parish (1972), Ward 7 of Orleans Parish (1964), Red River Parish (1972), St. Bernard Parish (1972), St. Charles Parish (1964), St. James Parish (1964), St. John the Baptist Parish (1972), St. Tammany Parish (1964 and 1972), Vernon Parish (1972), West Baton Rouge Parish (1967 and 1972), and West and East Feliciana parishes (1972). The 1972 session alone authorized 11 vocational-technical schools.

Branches have been authorized for Beauregard Parish (1964 and 1970), East Carroll Parish (1970), Evangeline Parish (1967), Jackson Parish (1970), Morehouse Parish (1968) and Vernon Parish (1962).

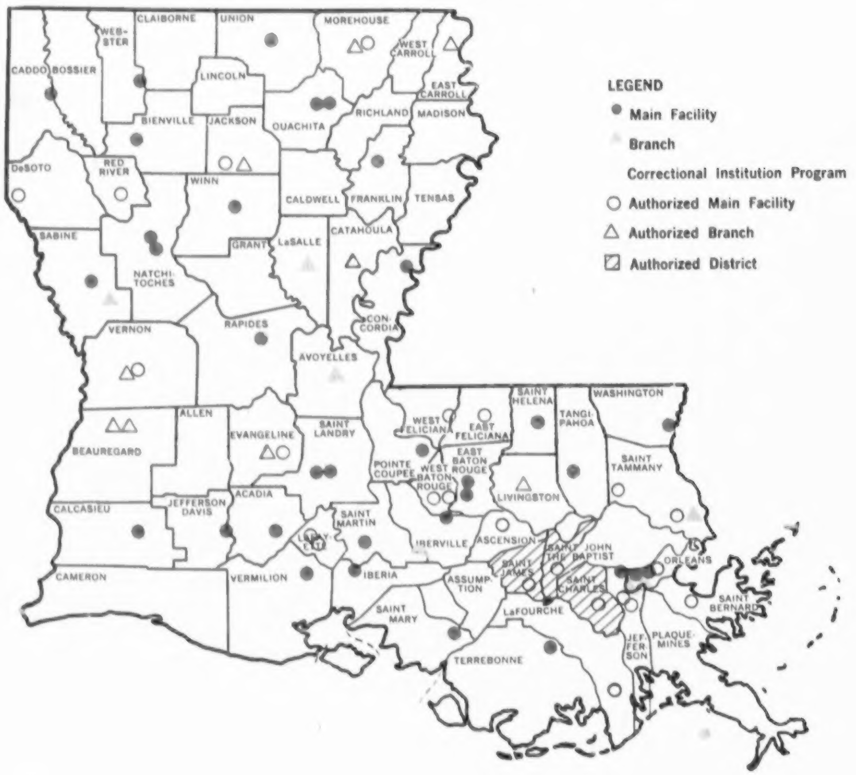
The present and authorized vocational-technical schools are shown in Figure 1.

FINANCING VOCATIONAL-TECHNICAL SCHOOLS

The state's vocational-technical schools derive their operating funds from state general fund appropriations, federal funds and self-generated income such as student charges.

Each school is a budget unit, with line items indicating purposes for which money is budgeted such as salaries and wages, employee benefits, travel, materials and supplies, equipment purchases, and major repairs. Each school director prepares a requested budget which he presents to the State Department of Education and then to the State Board of Education; approval is usually perfunctory. Each director must then attempt to justify his request to the State Budget Office and Legislative Budget Committee for inclusion in the executive budget proposed to the Legislature, and he then must "lobby" his request through the Legislature. Decisions as to amounts finally appropriated for each school are usually based on the level of past budgets as well as whether there is state money available to be divided among numerous programs requesting increases. It has been said that

Figure 1. Existing and Authorized Louisiana Vocational-Technical Schools


LEGEND
● Main Facility
Branch
Correctional Institution Program
○ Authorized Main Facility
△ Authorized Branch
▨ Authorized District
CADDO
BOSSIER
WEBSTER
CLAIBORNE
UNION
MOREHOUSE
WEST CARROLL
EAST CARROLL
LINCOLN
OUACHITA
RICHLAND
MADISON
BIENVILLE
JACKSON
DeSOTO
RED RIVER
WINN
CALDWELL
FRANKLIN
TENSAS
SABINE
NATCHITOCHES
GRANT
LaSALLE
CATAHOULA
CONCORDIA
VERNON
RAPIDES
AVOYELLES
ALLEN
EVANGELINE
SAINT LANDRY
BEAUREGARD
WEST FELICIANA
EAST FELICIANA
SAINT HELENA
TANGIPAHOA
WASHINGTON
POINTE COUPEE
WEST BATON ROUGE
EAST BATON ROUGE
LIVINGSTON
SAINT TAMMANY
CALCASIEU
JEFFERSON DAVIS
ACADIA
LAFAYETTE
SAINT MARTIN
IBERVILLE
ASCENSION
SAINT JAMES
SAINT JOHN THE BAPTIST
SAINT CHARLES
ORLEANS
SAINT BERNARD
CAMERON
VERMILION
IBERIA
ASSUMPTION
LaFOURCHE
SAINT MARY
TERREBONNE
JEFFERSON
PLAQUEMINES

each director must wage his own battle and be a good politician in order to gain support for his school.

There is no formula for allocating money to the vocational-technical schools based on the number of programs and their cost and the number of students to be served. The only formula to be met is the state salary schedule for faculty and directors as shown in Table 13. Faculty salaries are based on educational attainment and years of service, up to a stipulated maximum, with no allowance for outstanding teaching achievement or other criteria for merit. Each director is also paid according to his educational attainment and service; the only allowance for differences in size and complexity of the schools is that directors with 10 or more full-time professional employees receive an additional $600 a year.

Table 13. Salary Schedule for Staff at Louisiana Vocational-Technical Schools,[a] Approved May 14, 1971

Staff	No Degree	Bachelor	Master	Doctorate
Instructors[b]	$10,000 to 11,600[c]	$10,600 to 12,200	$10,800 to 12,400	$11,100 to 12,700
Guidance Counselors, D. E. Coordinator-Instructors, Supervisors, Trainers, Instructors with Engineering License[d]	—	$10,900 to 12,650	$11,100 to 12,850	$11,400 to 13,250
Assistant Directors[d]	—	$12,200 to 13,950	$12,600 to 14,150	$12,900 to 14,450
Directors[e]	—	$15,000 to 17,600	$15,300 to 17,900	$15,900 to 18,200

[a] Represents minimum and maximum ranges, including education and service increments.

[b] Salaries increased $150 for each year of service through 10 years, and $100 for the 11th year. Extension instructors are paid $8 per hour.

[c] For instructors below the bachelor's degree, salaries are increased $75 a year for each 15 semester hours toward a degree up to $600.

[d] Salaries increased $175 for each year of service through 10 years.

[e] Salaries increased $250 for each year of service through 8 years. Salaries are $600 a year less if a school has fewer than 10 full-time professional employees.

SOURCE: Louisiana State Department of Education.

A review of amounts expended for each of the vocational-technical schools indicates that most directors have a poor record as politicans acting independently. As shown in Tables 14 and 15, financing of most of the schools has been erratic, with increases one year sometimes followed by decreases the next. The major increase for the schools occurred in fiscal 1970-71, due primarily to a new salary schedule to bring faculty salaries more in line with those paid public school teachers.

As shown in Table 15, the budgets of the 33 vocational-technical schools for fiscal 1972-73 total $13.8 million of which

Table 14. Trend in Expenditures of Louisiana Vocational-Technical Schools, By School, 1965-66 to 1972-73

Vocational-Technical Schools	1965-66 State & Federal	1966-67 State & Federal	1967-68 State & Federal	1968-69 State & Federal	1969-70 State & Federal	1970-71 State & Federal	1971-72 State & Federal	% Increase 1965-66 to 1971-72 State & Federal	Budgeted 1972-73 State & Federal	% Increase 1965-66 to 1972-73 State & Federal
Alexandria	$264,228	$290,671	$325,396	$341,004	$336,774	$406,324	$479,780	81.6	$500,220	89.3
Baton Rouge	406,337	355,081	356,350	350,792	367,055	462,707	613,771[a]	51.0[a]	596,497[a]	46.8[a]
Bienville	34,399	34,721	25,514	22,654	25,000	24,560				
Capitol Area	144,210	130,453	136,958	140,908	143,332	175,930	201,829	40.0	194,212	34.7
Central Area	143,215	138,676	140,763	125,961	133,091	173,204	184,303	28.7	176,383	23.2
Concordia Parish	103,663	101,425	99,401	97,506	100,672	129,909	128,805	24.3	133,397	28.7
Delgado	1,548,565	1,931,622	2,484,834	2,707,312	2,517,915	3,197,691	3,272,628	111.3	3,367,779	117.5
Delta Area	84,711	93,921	98,711	82,183	93,161	139,704	152,900	80.5	160,824	89.9
Evangeline Area	103,058	138,834	151,448	151,385	164,059	245,873	240,256	133.1	247,999	140.6
Florida Parishes	72,091	69,041	67,059	69,627	69,892	91,246	96,630	34.0	98,576	36.7
Gulf Area	107,902	149,684	159,781	138,025	146,940	383,091	256,299	137.5	256,316	137.5
Hammond Area	121,675	99,023	118,421	124,376	128,935	186,870	196,862	61.8	204,268	67.9
Huey P. Long	84,907	113,110	121,659	115,781	116,026	154,997	168,390	98.3	170,901	101.3
Jefferson Davis	109,271	117,910	116,725	114,334	115,575	155,676	175,447	60.6	184,112	68.5
Jefferson Parish	383,650	400,382	428,496	419,053	437,790	557,563	611,127	59.3	626,296	63.2
Memorial Area	79,376	110,491	126,477	124,150	161,403	308,072	361,372	355.3	327,162	312.2
Natchitoches	313,518	288,586	294,441	297,956	299,138	384,423	392,418	25.2	388,726	24.0
North Central Area	85,069	105,740	114,732	120,608	136,906	173,931	193,963	128.0	189,075	122.3
Northeast Louisiana	111,556	127,023	118,175	105,819	110,166	155,649	171,065	53.3	198,545	78.0
Northwest Louisiana	130,641	149,483	152,381	139,167	143,002	193,341	339,457	159.8	331,001	153.4
Opelousas Area	107,883	115,330	128,069	120,302	130,284	181,908	181,328	68.1	196,804	82.4
Orleans Area	120,321	174,321	228,002	196,267	200,674	295,536	306,916	155.1	341,168	183.5
Ouachita Valley	327,264	316,119	337,249	303,647	319,979	395,449	436,876	33.5	431,844	32.0
Sabine Valley	152,983	139,859	152,663	152,135	157,244	215,138	255,433	67.0	256,167	67.4
Shreveport-Bossier	376,244	493,332	422,862	415,608	432,678	568,813	617,575	64.1	619,959	64.8
South Louisiana	155,809	189,809	180,328	181,901	189,647	295,056	259,642	66.6	267,843	71.9
Southwest Louisiana	282,141	303,366	291,146	284,899	258,973	323,776	392,708	39.2	425,983	50.9
Sowela	450,122	494,966	554,369	454,693	505,235	658,380	773,333	71.8	796,334	76.9
Sullivan	230,383	272,605	296,417	267,205	269,233	364,560	475,454	106.4	507,141	110.1
Teche Area	152,195	148,311	158,063	159,689	154,390	219,099	239,915	57.6	245,823	61.5
T. H. Harris	469,430	396,170	511,315	498,451	524,510	736,454	777,356	65.6	776,348	65.4
westside	41,530	94,067	104,951	96,969	107,146	155,180	170,799	311.3	193,339	365.5
Young Memorial	195,542	276,901	271,304	258,368	254,482	337,089	412,156	110.8	387,316	98.1

[a] Combined with Northwest Louisiana.

SOURCE: *Financial Reports* of the Louisiana Division of Administration.

Table 15. Trend in Total Expenditures for Louisiana's 33 Vocational-Technical Schools (In Thousands)

Fiscal Year	State	% Annual Change	Federal	% Annual Change	Total	% Annual Change
1965-66	$5,258	—	$2,236	---	$7,494	---
1966-67	5,823	10.7	2,638	18.0	8,461	12.9
1967-68	6,653	14.3	2,621	-0.6	9,274	9.6
1968-69	6,501	-2.3	2,678	2.2	9,179	-1.0
1969-70	6,236	-4.1	3,015	12.6	9,251	0.8
1970-71	8,154	30.8	4,293	42.4	12,447	34.5
1971-72	9,605	17.8	3,932	-8.4	13,537	8.7
Increase, 1965-66 to 1971-72		82.7		75.8		80.6
1972-73 (budgeted)[a]	10,125	5.4	3,673	-6.6	13,798	1.9
Increase, 1965-66 to budgeted 1972-73		92.6		64.3		84.1

[a] The vocational-technical schools will also share in a $1 million appropriation for career education.

SOURCE: *Financial Reports* of the Louisiana Division of Administration.

$10.1 million is state funds and $3.7 million is federal funds. This is a slight increase from the prior year when total expenditures were $13.5 million ($9.6 million state and $3.9 million federal). The schools will also share in a $1 million state appropriation for career education.

Table 15 also shows that funds for vocational-technical schools increased 84.1 percent during the 7-year period, 1965-66 through 1972-73. Money for public elementary and secondary schools increased 69.3 percent during this same period; special schools, 88.5 percent; and colleges and universities, 91.7 percent. However, the $13.8 million budgeted for vocational-technical schools in fiscal 1972-73 is considerably smaller than the $526.2 million budgeted for public elementary and secondary schools and the $190.7 million budgeted for institutions of higher education.

Cost Per Student

While there is no formula for allocating funds to the schools based on number of students and programs, the average cost per student, with a few exceptions, falls within a range of $150 to $250 a year. This data was obtained by dividing the cumulative enrollment for each school for 1969-70 (the latest collected by PAR) into the expenditures for that year. The average cost per student per year for the 33 schools was $211.24. There was a considerable range from the lowest to highest cost per student—$68.35 at Jefferson Parish to $538.84 at Capitol Area. (See Table 16.) Of course, since the

Table 16. Average Cost Per Student at Louisiana Vocational-Technical Schools, 1969-70 School Year

Rank	Vocational-Technical School	Cost Per Student	Number Preparatory Students	% of Students Preparatory
1	Capitol Area	$ 538.84	127	42.7
2	Natchitoches	513.98[a]	306	52.6
3	Bienville	438.60[b]	57	100.0
4	Central Area	394.93	200	59.3
5	Delgado	337.07	3,963	53.0
6	Orleans Area	314.54	313	49.0
7	Evangeline Area	314.29	522	100.0
8	Memorial Area	297.79	432	79.7
9	North Central Area	278.83	468	95.3
10	T. H. Harris	261.99	1,360	67.9
11	Opelousas Area	251.51	353	68.1
12	H. P. Long	249.52	344	74.0
13	Northeast Louisiana	246.46	256	57.3
14	Gulf Area	246.13	597	100.0
15	Florida Parishes	244.38	160	55.9
16	Hammond Area	233.58	254	46.0
17	Sowela	229.76	1,041	47.3
18	Sullivan	225.11	572	47.8
19	Westside	222.29	286	59.3
20	Alexandria	218.54	716	46.5
21	Concordia Parish	213.74	277	58.8
	Average	211.24	—	—
22	Jefferson Davis	199.96	311	53.8
23	Sabine Valley	196.80	451	56.4
24	South Louisiana	196.53	316	32.7
25	Delta Area	188.97	420	85.2
26	Young Memorial	187.39	538	39.6
27	Northwest Louisiana	183.57	330	42.4
28	Ouachita Valley	177.86	731	40.6
29	Southwest Louisiana	175.57	1,136	77.0
30	Shreveport-Bossier	141.77	1,063	34.8
31	Teche Area	129.41	423	35.5
32	Baton Rouge	113.39	745	23.0
33	Jefferson Parish	68.35	950	14.8

[a] Includes cost of curricular lab; separate data not available.
[b] Being merged with Northwest school.

SOURCE: PAR questionnaires to vocational-technical schools and *Financial Reports* of the Louisiana Division of Administation.

average student remains in school only about six months rather than a year, the actual cost for an average student would be less than indicated.

Some of the variation in cost can be explained by the fact that some schools have a larger proportion of full-time preparatory students than others. Cost of preparatory students would usually be higher than part-time extension or apprenticeship students. Other variations could be due to types of programs as well as to the size of the student body, dropout rate, and education and experience of the faculty.

FACILITIES OF VOCATIONAL-TECHNICAL SCHOOLS

Few who have seen the state's 33 vocational-technical schools would argue that the facilities are adequate. As noted by the Louisiana Coordinating Council for Higher Education:

> The tours taken by the study group revealed numerous buildings in shopworn condition, and of old and temporary-type construction. The existing facilities are crowded. Capital improvement is a need most obvious to the naked eye.[3]

The PAR staff members who visited each of the schools reached the same conclusion.

Value of Facilities

The state has invested little in its vocational-technical school facilities. One means of determining the value of these school plants—buildings and contents—is through the insured value compiled by the Property Insurance Section of the Division of Administration. This data has some drawbacks in that values are usually not updated—appreciated or depreciated—unless additions or improvements are made. Also, the insured value excludes land as well as below-ground improvements such as foundations, subsurface pilings, basement construction, sidewalks, parking lots and exterior buildings; this uninsured value is approximately 10 percent of the insured value of buildings and contents. Despite these limitations, the insured value does give some insight.

Data as of March 23, 1972 indicates that the 33 vocational-technical schools and branches had a combined insured value of $26 million of which $18.2 million represented buildings and $7.7 million represented equipment and other contents.

There has been little expansion of these facilities during the past 5 years. For example, in 1966-67 the vocational-technical schools, excluding Delgado which was then administered by the City of New Orleans, had an insured value of $12.6 million. For comparative purposes, if Delgado is excluded from 1972 data, these facilities increased in value by only $3.1 million, or 25 percent, during the past 5 years. (See Table 17.)

In contrast, the state's colleges and universities, embracing 18 campuses, had an insured value of $269.8 million in 1967, of which $228.1 million was buildings and $41.7 million was contents. The 1971-72 value was $484.6 million—$404.7 million in buildings and $80 million in contents. Hence, facilities of colleges and universities in-

Table 17. Insured Value of Capital Facilities of Louisiana Vocational-Technical Schools

Vocational Technical School	1966-67			1971-72		
	Building	Contents	Total	Building	Contents	Total
Alexandria	$ 457,000	$ 241,000	$ 698,000	$ 537,000	$ 456,000	$ 993,000
Baton Rouge	400,000	440,800	840,800	402,000	485,800	887,800
Bienville	114,900	30,100	145,000	114,900	30,100	145,000
Capitol Area	134,000	132,900	266,900	134,000	132,900	266,900
Central Area	181,000	73,300	254,300	181,000	69,300	250,300
Concordia Parish	93,000	48,600	141,600	93,000	80,000	173,000
Delgado	N/A	N/A	N/A	8,471,600	1,802,200	10,273,800
Delta Area	201,000	72,800	273,800	201,000	158,400	359,400
Evangeline Area	217,000	113,300	330,300	217,000	208,000	425,000
Florida Parishes	100,000	50,000	150,000	100,000	50,000	150,000
Gulf Area	135,200	80,100	215,300	174,700	182,800	357,500
Hammond Area	169,000	84,000	253,000	200,800	185,300	386,100
Huey P. Long	279,000	71,500	350,500	283,000	132,500	415,500
Jefferson Davis	171,900	80,000	251,900	171,900	100,500	272,400
Jefferson Parish	417,800	55,500	473,300	357,200	142,800	500,000
Memorial Area	83,000	48,700	131,700	83,000	258,000	341,000
Natchitoches	388,000	201,900	589,900	388,000	220,000	608,000
North Central Area	137,600	90,000	227,600	137,600	138,000	275,600
Northeast Louisiana	137,300	89,000	226,300	137,300	91,800	229,100
Northwest Louisiana	173,000	68,000	241,000	506,700	80,000	586,700
Opelousas Area	185,100	62,100	247,200	185,100	130,000	315,100
Orleans Area	402,000	95,000	497,000	402,000	95,000	497,000
Ouachita Valley	434,000	489,000	923,000	298,000	375,000	673,000
Sabine Valley	272,800	147,000	419,800	360,800	167,000	527,800
Shreveport-Bossier	768,000	107,000	875,000	1,143,500	207,000	1,350,500
South Louisiana	392,700	148,700	541,400	392,400	235,900	628,300
Southwest Louisiana	434,700	130,400	565,100	436,700	206,200	642,900
Sowela	477,900	217,500	695,400	477,900	317,800	795,700
Sullivan	100,000	70,000	170,000	100,000	70,000	170,000
T. H. Harris	425,600	314,600	740,200	854,800	554,100	1,408,900
Teche Area	136,000	84,000	220,000	136,000	84,000	220,000
Young Memorial	324,300	98,000	422,300	353,100	183,200	536,300
Westside	207,000	60,000	267,000	207,000	100,000	307,000
TOTAL				$18,239,000	$7,729,600	$25,968,600[a]
TOTAL (excluding Delgado)	$8,549,800	$4,094,800	$12,644,600	$ 9,767,400	$5,927,400	$15,694,800

[a] Includes Delgado.
NA—Data not available.
SOURCE: Property Insurance Section of the Louisiana Division of Administration.

creased $214.8 million, or 80 percent, during this 5-year period. (See Table 18.) Data for LSU facilities was obtained from LSU which has its own insurance program; the data is comparable to that of the Division of Administration except that LSU does update its values periodically.

The value of the facilities at each of seven college campuses exceeds that of all 33 vocational-technical schools combined. If Delgado is excluded, the total value of the remaining 32 vocational-technical schools if $15.7 million—less than the value of any single campus except Nicholls, the New Orleans and Shreveport branches of Southern University, and the 2-year branches of LSU at Alexandria, Eunice and Shreveport.

While there are obvious differences between facilities at a college campus and a vocational-technical school—most campuses have facilities which a vocational-technical school lacks such as dormitories, student union buildings, dining halls, book stores, research facilities, a house for the president, agricultural buildings, auditoriums, stadiums, libraries, administrative offices and conference rooms—nevertheless both represent investment by the taxpayers of the state in education beyond the high school.

Funds from State Bond Issues

Since 1960 the state has authorized some $350 million in bonds for capital construction, excluding highways and ports as well as revenue-type bonds of colleges such as those for dormitories. The 33 vocational-technical schools received only $9.5 million from these bond proceeds, while colleges received over $200 million. (See Tables 19 and 20.) One collegiate project alone—the new assembly center at LSU Baton Rouge for basketball and other entertainment events—received $12.5 million from state tax-supported bonds.

Almost half ($4.2 million) of the $9.5 million in bond proceeds for vocational-technical schools went to three of the 33 schools—$1.6 million for Delgado; $1.2 million for a new site for the Shreveport-Bossier school; and $1.4 million for Sullivan at Bogalusa and its branch at Slidell. Three other schools received no funds and 14 received less than $100,000 during this 12-year period. In 1971 a $29.7 million bond issue for capital outlay at 28 existing vocational-technical schools, and for constructing 10 new schools and branches and reopening another branch, was vetoed by the governor.

Table 18. Insured Value of Capital Facilities of Louisiana Public Colleges and Universities

	1966-67			1971-72		
Colleges and Universities	Building	Contents	Total	Building	Contents	Total
Grambling	$ 10,450,200	$ 2,376,300	$ 12,826,500	$ 21,316,700	$ 3,074,200	$ 24,390,900
L. S. U., Alexandria	3,217,300	580,900	3,798,200	4,185,419	928,450	5,113,869
L. S. U., Baton Rouge	70,607,777	14,229,240	84,837,017	117,828,555	28,155,471	145,984,026
L. S. U., Eunice	2,119,766	149,000	2,268,766	2,501,786	348,600	2,850,386
L. S. U., Medical & Dental—New Orleans	10,924,330	1,708,300	12,632,630	28,665,579[a]	5,339,134[a]	34,004,713[a]
L. S. U., Medical—Shreveport	349,500	5,400	354,900	584,030[b]	647,413[b]	1,231,443[b]
L. S. U., New Orleans	7,640,600	1,862,762	9,503,362	19,231,666	4,910,230	24,141,896
L. S. U., Shreveport	2,769,507	359,100	3,128,607	3,161,083	653,602	3,814,685
Louisiana Tech	17,893,100	4,023,100	21,916,200	25,530,100	5,145,200	30,675,300
McNeese	14,253,000	1,119,400	15,372,400	23,934,000	5,012,600	28,946,600
Nicholls	5,159,000	1,010,200	6,169,200	13,372,000	2,215,800	15,587,800
Northeast	13,052,000	2,550,600	15,602,600	24,777,000	3,729,300	28,506,300
Northwestern	13,224,200	4,110,700	17,334,900	24,417,100	5,802,800	30,219,900
Southeastern	15,615,700	1,535,400	17,151,100	18,898,100	2,057,600	20,955,700
Southern, Baton Rouge	21,333,800[c]	3,570,200[c]	24,904,000[c]	30,498,800	6,814,000	37,312,800
Southern, New Orleans	[c]	[c]	[c]	4,281,900	1,042,600	5,324,500
Southern, Shreveport	[c]	[c]	[c]	4,115,300	250,000	4,365,300
U. S. L.	19,489,594	2,526,250	22,015,844	37,373,100	3,835,700	41,208,800
Total—L. S. U.	$ 97,628,780	$18,894,702	$116,523,482	$176,158,118	$40,982,900	$217,141,018
GRAND TOTAL	$228,099,374	$41,716,852	$269,816,226	$404,672,218	$79,962,700	$484,634,918

[a] Includes new dental school.

[b] Permanent facilities under construction; facilities are to be completed within 2½ years.

[c] Includes all campuses of Southern University.

SOURCE: Louisiana Division of Administration and LSU.

Table 19. Allocations to Louisiana Vocational-Technical Schools From State Tax-Supported Bond Issues

Vocational-Technical Schools	Act 112 of 1960 ($60 Million)	Act 6 of 1964 Ex. Sess. ($35 Million)	Act 73 of 1965 ($40 Million)	Act 15 of 1969 ($106 Million)	Total All Bonds
Alexandria	$ 460,000	$ 67,360	$ —	$ —	$ 527,360
Alexandria, Cottonport Branch	35,000	—	—	—	35,000
Baton Rouge	—	—	3,210	16,050	19,260
Bienville	30,181	—	5,000	—	35,181
Capitol Area	—	—	13,742	—	13,742
Central Area	—	—	—	—	—
Concordia Parish	7,500	5,000	—	—	12,500
Delgado	205,000	650,000	750,000	—	1,605,000
Delta Area	—	—	1,095	—	1,095
Evangeline Area	283,000	19,496	—	—	302,496
Florida Parishes	—	—	5,500	—	5,500
Gulf Area	—	—	2,639	10,000	12,639
Hammond Area	160,000	34,175	—	70,743	264,918
Huey P. Long	—	—	8,584	14,500	23,084
Jefferson Davis	—	—	—	12,500	12,500
Jefferson Parish, Gretna Branch	353,288	1,000	9,720	—	364,008
Memorial Area	—	13,700	1,965	—	15,665
Natchitoches	307,000	—	3,571	—	310,571
North Central Area	—	—	—	—	—
Northeast Louisiana	30,000	24,000	—	—	54,000
Northwest Louisiana	—	—	—	391,000	391,000
Opelousas Area	225,000	—	—	—	225,000
Orleans Area	—	—	17,500	502,500	520,000
Ouachita Valley	410,000	—	—	—	410,000
Sabine Valley	—	44,162	—	—	44,162
Shreveport-Bossier	771,242	—	—	450,000	1,221,242
South Louisiana	—	—	5,608	—	5,608
Southwest Louisiana	225,000	—	8,776	—	233,776
Sowela	205,400	2,000	2,800	—	210,200
Sullivan	—	500,000	12,070	500,000	1,012,070
Sullivan, Slidell Branch	—	20,000	—	363,955	383,955
Teche Area	—	—	—	—	—
T. H. Harris	132,500	—	306,730	109,000	548,230
Westside	225,000	29,750	—	—	254,750
Young Memorial	425,000	—	—	—	425,000
TOTAL	$4,490,111	$1,410,643	$1,158,510	$2,440,248	$9,499,512

SOURCE: Louisiana State Treasurer's Office.

Table 20. Allocations to Louisiana Colleges and Universities from State Tax-Supported Bond Issues

Colleges & Universities	Act 112 of 1960 ($60 Million)	Act 6 of 1964 ($35 Million)	Act 73 of 1965 ($40 Million)	Acts 12 & 437 of 1966 ($15.5 Million)	Act 15 of 1969 ($107 Million)	Act 149 of 1971 ($26.9 Million)	Total All Bonds
Grambling	$ 908,000	$ 835,000	$ 1,131,044	$ ...	$ 177,000	$ ...	$ 3,051,044
L. S. U.—							
Alexandria	2,150,000	570,000	325,000	...	...	...	3,045,000
Baton Rouge (incl. Rice Station)	2,566,597	4,560,000	10,473,867	...	11,825,000	5,000,000	34,425,464
Eunice	...	2,072,718	...	...	...	...	2,072,718
Medical Center, New Orleans	...	...	...	5,500,000	...	...	5,500,000
Medical School Shreveport	...	...	...	10,000,000	...	...	10,000,000
New Orleans	7,263,059	3,122,296	1,490,000	...	5,225,000	5,000,000	22,100,355
Shreveport	...	2,617,351	...	...	2,000,000	1,532,635	6,149,986
Louisiana Tech	2,297,651	1,750,000	2,881,789	...	2,393,492	120,268	9,443,200
McNeese	2,916,000	1,250,000	1,115,640	...	511,900	870,230	6,663,770
Nicholls	2,662,483	1,552,000	838,421	...	3,333,960	...	8,386,864
Northeast	1,421,300	1,058,715	1,771,000	...	3,650,000	2,550,000	10,451,015
Northwestern	2,169,959	1,911,000	1,615,600	...	3,075,000	2,550,000	11,321,559
Southeastern	1,967,266	963,000	1,700,000	...	2,875,000	1,275,000	8,780,266
Southern-Baton Rouge	1,920,194	1,797,000	1,338,413	...	8,004,000	5,000,000	18,059,607
Southern-New Orleans	1,519,177	1,872,000	728,000	...	1,675,000	2,103,750	7,897,927
Southern-Shreveport	...	...	...	...	716,120	850,952	1,567,072
U. S. L.	2,659,898	2,660,000	1,818,000	...	3,088,000	...	10,225,898
TOTAL	$32,421,584	$28,591,080	$27,226,774	$15,500,000	$48,549,472	$26,852,835	$179,141,745

NOTE: Additional bond issues for colleges which are tax supported are:

Act 123 of 1967 — U. S. L., McNeese and Nicholls–$5,000,000 outstanding at any one time.
Act 294 of 1968 — L. S. U. Research Facility–$550,000.
Act 288 of 1970 — L. S. U. Center for Engineering and Business Administration–$10,700,000.
Act 330 of 1970 — L. S. U., New Orleans Classroom Building–$3,200,000.
Act 281 of 1970 — L. S. U. Veterinary School–$3,000,000.
Act 577 of 1970 — Higher Education Facilities–$9,828,000.

SOURCE: Louisiana State Treasurer's Office.

Utilization

Maximum capacity of schools is determined by the size of the facility as well as the number of instructors actually employed. Hence, the maximum capacity of a school could be increased not only by increasing the size of facilities, but also, in some cases by providing funds for additional personnel within existing space.

Most of the schools reported that they were operating at or near their maximum capacity as of February 1971. Half of the schools had enrollments between 90 and 100 percent of their capacity. All but four schools were within a 80-120 percent range. Of the four below 80 percent, Flordia Parishes had the lowest percentage of maximum capacity—53 percent. This data, however, has its limitations since there is no uniform standard for reporting space per student.

When examined by programs, three areas—home economics, distributive education and technical training—had enrollments below 90 percent of the maximum capacity.

If the total enrollments are divided by the maximum capacity, then utilization of all schools combined was 91.8 percent.

The directors of the vocational-technical schools were asked whether they projected enrollments and, if so, to rank the various factors on which they based such projections. The factor used most frequently was the maximum capacity of the school, followed closely by past experience and waiting lists. Factors such as the number of high school graduates in the vicinity, requests from business and industry, and information on needs supplied by employment agencies and others were either not used or were ranked low in the order of priorities.

A large majority of the directors stated that they were operating at maximum capacity in regard to the preparatory programs; the number of students served in evening extension programs depended on funds available.

Waiting Lists

Waiting lists are another indication of the lack of adequate facilities at the vocational-technical schools. Unfortunately, the various schools have different means of reporting waiting lists, and many schools do not maintain a waiting list for their evening and apprenticeship programs.

The school directors indicated that waiting lists for the majority of their programs were revised within a month of their reporting them to PAR, but there is no standard for determining who is put on a waiting list nor how long potential students remain on the list. Nevertheless, waiting lists do give some indication of the number of students the schools were unable to serve.

Waiting lists reported as of February 1971 for preparatory programs ranged from none to double the maximum capacity of the schools. The number on the waiting lists equaled 77.9 percent of the maximum capacity of all schools. However, in only six schools were the waiting lists over 100 percent of maximum capacity, whereas the number on the lists of half of the schools were under 50 percent. One reason the overall percentage was so high was that the larger schools had longer waiting lists than most of the smaller schools.

Appraisal of Need

While the needs of vocational-technical schools for capital funds seem obvious, this is hardly a basis for providing money. There must be a planned program with needs pinpointed. One means of appraising need is through a capital budget which would specify precise requirements, priorities and means of financing. The state has had a capital budget law since 1963, but it has been ignored.

Another means of deciding whether institutions need additional facilities is through a determination of the degree to which they use their existing facilities and the condition of those facilities. A space utilization study of 32 vocational-technical schools (excluding Delgado) was prepared by the Research Coordinating Unit of the Vocational Education Division of the State Department of Education. The original survey was made in 1970 and updated May 1, 1971.

The facilities survey by the State Department of Education fails to provide essential data to assess the use of space and the need for additional facilities. Among its shortcomings are the following:

1. Data is not comprehensive. Space used for purposes other than classrooms and shops is not included, i.e., administration and faculty offices, parking lots, land holdings available for expansion, corridors and halls, custodial and mechanical areas, restrooms and storage areas.

2. Data fails to indicate the condition of present facilities—whether they are satisfactory or in need of repair or replacement. Data also fails to indicate the age of the facilities and type of construction.

3. Standard criteria were not established to measure acceptable areas per student station in different types of programs. For example,

a welding course would require a different amount and kind of space than a course in office occupations, and the required space might vary according to size of enrollment.

4. Data was compiled on a student headcount basis, but there was no indication of occupancy at specified times during the day and evening on the basis of student clock or contact hours.

5. Data shows apparent inconsistencies. For example, instances were noted where space was not being used to full capacity yet students were on a waiting list. Other instances were noted where one school had enrollments above indicated capacity and requested no additional space while another school offering the same program was not fully utilizing existing space but requested more space. Similar inconsistences were noted in examining data for particular programs. For example, in an industrial engines course, two schools were reported to have the same student capacity although one school had twice the square footage of the other and requested additional space. In drafting, one school had 840 square feet with a student capacity of 20 (21 enrolled) and requested no additional space, whereas another school had 9,000 square feet with a student capacity of 15 (eight actually enrolled) and requested an additional 1,500 square feet.

A facilities survey of Delgado was made under a federal grant obtained through the Louisiana Higher Education Facilities Commission. This study, published in September 1971, is far more comprehensive than that done by the Department of Education for the other 32 vocational-technical schools. Detailed data is presented on the utilization of space and the condition of buildings, and a proposed program for providing new facilities in phases is also included.

The State Department of Education is currently engaged in a survey of facilities at the vocational-technical schools which is designed to provide necessary data for evaluation of needs.

PROGRAMS AND ENROLLMENTS

The vocational-technical schools in Louisiana categorize their programs as preparatory, extension and apprenticeship. *Preparatory* programs include training for those who have never worked in that field before; *extension* programs are mainly for those who need upgrading in a particular field; and *apprenticeship* programs are related courses for apprentices. Since students may enroll and leave at various times during the year, enrollments may be reported as of a certain date or cumulative for the year.

For the 1969-70 fiscal year, there was a cumulative enrollment of 43,794 students in the vocational-technical schools. Of these, 20,018 were enrolled in the preparatory programs, 21,487 in the extension and 2,289 in the apprenticeship programs. The schools varied in size and capacity from a total cumulative enrollment of 57 students at Bienville to 7,470 at Delgado. (See Table 21.)

Only 12 schools had total enrollments of over 1,000 during fiscal 1969-70, while 10 schools had under 500 students. In the preparatory programs five schools had over 1,000 students, and 20 schools had under 500 students.

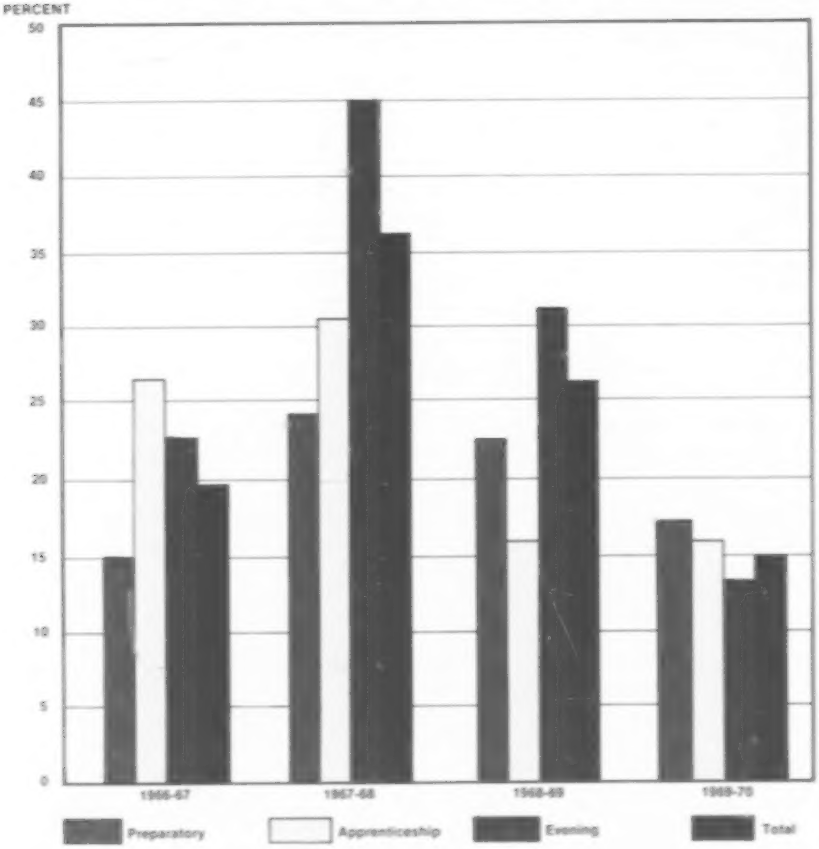
Table 21. Cumulative Enrollments of Louisiana Vocational-Technical Schools, 1969-70

Vocational-Technical School	Total	Preparatory	Evening	Apprentice
Alexandria	1,541	716	793	32
Baton Rouge	3,237	745	1,499	993
Bienville	57	57	—	—
Capitol Area	266	127	89	50
Central Area	337	200	137	—
Concordia Parish	471	277	194	—
Delgado	7,470	3,963	3,028	479
Delta Area	493	420	73	—
Evangeline Area	522	522	—	—
Florida Parishes	286	160	126	—
Gulf Area	597	597	—	—
Hammond Area	552	254	298	—
Huey P. Long	465	344	121	—
Jefferson Davis	578	311	267	—
Jefferson Parish	6,405	950	5,353	102
Memorial Area	542	432	110	—
Natchitoches	582	306	276	—
North Central Area	491	468	23	—
Northeast Louisiana	447	256	191	—
Northwest Louisiana	779	330	449	—
Opelousas	518	353	165	—
Orleans Area	638	313	293	32
Ouachita Valley	1,799	731	873	195
Sabine Valley	799	451	348	—
Shreveport-Bossier	3,052	1,063	1,790	199
South Louisiana	965	316	630	19
Southwest Louisiana	1,475	1,136	258	81
Sowela	2,199	1,041	1,063	95
Sullivan	1,196	572	612	12
T. H. Harris	2,002	1,360	642	—
Teche Area	1,193	423	770	—
Westside	482	286	196	—
Young Memorial	1,358	538	820	—
TOTAL	43,794	20,018	21,487	2,289

SOURCE: PAR questionnaires to Louisiana vocational-technical schools.

Although there was an increase in enrollments in the prior five year period (from 1965-66 to 1969-70), the last 2 years of this period saw a general decrease in cumulative enrollments. (See Figure 2.) Of the 33 vocational-technical schools 15 had a decrease in their enrollments from 1965-66 to 1969-70. All but eight schools had a decrease in enrollments from fiscal years 1968-69 to 1969-70 compared to the six schools which had a decrease from 1965-66 to 1966-67.

Figure 2. Percent Increase in Louisiana Vocational-Technical School Enrollments Over 1965-66, By Type of Program



From Figure 3 it can be seen that evening programs varied most in enrollments. By fiscal 1967-68 the vocational-technical schools had realized a 47.8 percent increase in enrollments over 1965-66 but by 1969-70 there was only a 13.3 percent increase over the base period of 1965-66.

The directors of the schools indicated that the decrease in enrollments was caused by a cut in funds available for the vocational schools (compared with increasing costs). Evening programs are easiest to cut back.

When the percentage increase in total enrollments and preparatory enrollments are compared to the expenditures by school, there is no direct correlation between enrollments and funds. For example, one school had a 40 percent increase in the number of students between 1965-66 and 1969-70 and only a 14 percent increase in funds. On the other hand, another school had a 61 percent increase in funds between 1965-66 and 1968-69, while it had an 18 percent decrease in the number of students. However, there are many factors which affect the relationship between number of students and funds. One of the major difficulties in this type of analysis is that equipment purchases and minor repairs to facilities are sometimes included in the operating expenditures of these schools and thus cause unusual fluctuations. The lack of any cost data per student per program makes any analysis of trends and needs impossible.

Programs

Students in vocational-technical schools enroll in programs which consist of related courses and learning units for specific occupations. For example, practical nursing, welding, accounting and bookkeeping are programs offered by many of the schools. (See Table 22 for a listing of all programs offered as of 1969-70.) PAR asked that the schools classify programs according to a code devised by the U. S. Office of Education so that there would be uniform reporting of the training programs.

Not only did many schools have small enrollments but many also had few program offerings. For example, 15 schools had 10 or fewer different program offerings, and two of these 15 schools had five or fewer offerings. Only five schools had more than 25 program offerings, the largest of which was Delgado with 45. (See Table 23.)

When only *preparatory* programs are considered, offerings of the schools ranged from two to 32, with half of the schools having 10 or fewer programs. The larger schools had a wide variation in the

Figure 3. Trend in Louisiana Vocational-Technical School Enrollments, 1965-66 to 1969-70

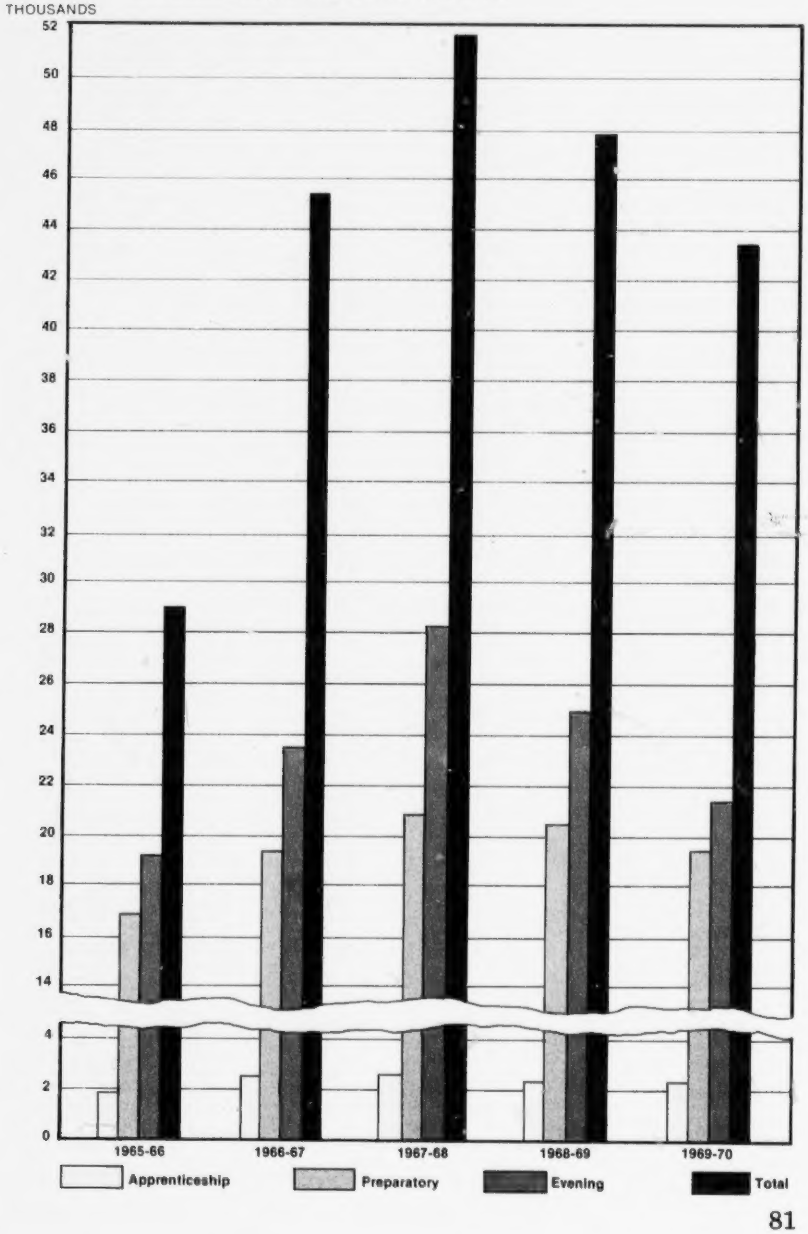


Table 22. Cumulative Enrollments, By Program, in Louisiana Vocational-Technical Schools, 1969-70

PROGRAM[a]	Enrollments
AGRICULTURE	
Ornamental Horticulture	2
Farm Mechanics	44
Agriculture and power mechanics	91
Total Agriculture	137
DISTRIBUTIVE EDUCATION	
Advertising	118
Automotive	30
Finance and Credit	434
Food Distribution	33
General Merchandise	474
Home Furnishing	60
Hotel and Lodging	433
Recreation and Tourism	132
Transportation	96
Retail Trade	59
Total Distributive Education	1,869
HEALTH	
Practical Nursing	1,357
Nurse Aide	784
Surgical Technician	13
Home Health Aide	62
Nursing, Other	7
Medical Emergency Technician	185
Health, Other	20
Total Health	2,428
HOME ECONOMICS	
Child Development	50
Food Management	109
Inst./Home Management	31
Occupational Prep., Other	18
Total Home Economics	208
OFFICE OCCUPATIONS	
Accounting	2,041
Data Processing	1,092
General Clerical	720
Secretaries and Stenographers	3,585
Supervisory	313
Typing and Related	1,700
Office Occupations, Other	30
Total Office Occupations	9,930
TECHNICAL	
Aerospace	15
Architectural	25
Civil	97
Electronic	820
Industrial	9
Instrumentation	451
Mechanical	90
Petroleum	40
Scientific Data Processing	274
Engineering Related	60
Fire Technology	110
Police Science	40
Total Technical	2,031

PROGRAM[a]	Enrollments
TRADE AND INDUSTRIAL	
Air Conditioning	747
Appliance Repair	110
Auto Body and Fender	400
Auto Mechanics	2,136
Auto Specialization	23
Aircraft Maintenance	262
Ground Operations	72
Blueprint Reading	172
Business Machine Repair	45
Commercial Art	105
Commercial Fishery	59
Commercial Photography	36
Carpentry	485
Electricity	498
Heavy Equipment	28
Masonry	99
Painting	138
Plumbing and Pipefitting	378
Glazing	16
Roofing	117
Construction and Maintenance, Other	165
Custodial Services	52
Diesel Mechanics	383
Drafting	1,203
Electrical Occupations	343
Industrial Electrician	13
Lineman	397
Electronics	471
Communications	145
Industrial Electronics	52
Radio and TV	778
Supervisory Training	2,429
Remedial	378
Graphic Arts	25
Radiography	37
Watch Making and Repair	53
Maritime	112
Metal Working	23
Foundry	1
Machine Shop	734
Machine Tool	44
Sheet Metal	181
Welding	3,979
Metal Working, Other	38
Barbering	74
Cosmetology	159
Law Enforcement	46
Quantity Foods	46
Cook and Chef	53
Meatcutter	44
Refrigeration	147
Small Engine Repair	76
Tailoring	16
Stationery Energy	21
Textile Production	462
Upholstering	84
Millwork and cabinet making	54
Total Trade and Industrial	19,276

[a] Enrollments by U. S. Office of Education Classification Code.

SOURCE: PAR questionnaires to Louisiana vocational-technical schools.

Table 23. Number of Programs Offered by Louisiana Vocational-Technical Schools, 1969-70

Vocational-Technical School	Preparatory	Evening	Apprentice	Total	Unduplicated Total
Alexandria	8	9	1	18	11
Baton Rouge	12	15	6	33	23
Bienville	2	1	—	3	2
Capitol Area	5	3	3	11	10
Central Area	10	10	—	20	10
Concordia Parish	6	4	—	10	6
Delgado	32	16	9	57	45
Delta Area	5	2	—	7	7
Evangeline Area	8	7	—	15	9
Florida Parishes	8	7	—	15	8
Gulf Area	13	—	—	13	13
Hammond Area	7	2	—	9	7
Huey P. Long	4	2	—	6	5
Jefferson Davis	8	8	—	16	10
Jefferson Parish	14	21	12	47	33
Memorial Area	13	1	—	14	13
Natchitoches	12	3	—	15	13
North Central Area	8	1	—	9	8
Northeast Louisiana	7	12	—	19	10
Northwest Louisiana	10	5	—	15	10
Opelousas Area	8	3	—	11	8
Orleans Area	11	3	1	15	15
Ouachita Valley	17	11	4	32	28
Sabine Valley	15	8	—	23	18
Shreveport-Bossier	18	27	10	55	32
South Louisiana	9	6	1	16	11
Southwest Louisiana	15	7	3	25	17
Sowela	18	12	4	34	25
Sullivan	13	4	—	17	16
Teche Area	13	11	—	24	15
T. H. Harris	21	11	—	32	27
Westside	7	2	—	9	7
Young Memorial	9	7	—	16	13
UNDUPLICATED TOTAL	69	64	17		101

SOURCE: PAR questionnaires to Louisiana vocational-technical schools.

number of programs, with Sowela and Shreveport-Bossier offering 18 programs each; T. H. Harris, 21; and Delgado, 32.

The number of *evening* programs offered by school was also relatively small, with 14 schools offering five or fewer programs while only two schools, Jefferson Parish and Shreveport-Bossier, had over 20 programs.

The vocational-technical schools, when viewed as a whole, appear to have a fairly large number of different programs, but actually, most of these programs are offered by only one or a handful of the schools. For example, there were 101 unduplicated programs offered by the schools. However, almost half of these (46.5 percent) were offered at only one school, and about three-fourths were offered at five or fewer schools. Only seven programs were offered at 20 or more schools: practical nursing (offered at 20 schools), accounting (27), stenography/secretarial (32), auto mechanics (30), drafting (21), welding (28) and typing (21).

Most schools offer few preparatory and evening courses. For example, there were 69 preparatory programs offered, but almost half (49 percent) were offered at only one school, and only six programs were offered at 20 or more schools. Of the evening programs, 57 percent were offered at only one school, and only one evening program was offered at 20 or more schools.

Some programs, such as home economics and distributive education, had large percentage increases in enrollments. (See Figure 4.) However, the relative proportion of each program to total enrollments changed little over the past 5 years. (See Figure 5.)

Cumulative enrollments for fiscal 1969-70 within programs were also relatively small. Only nine programs had more than 1,000 students enrolled within the year: typing had 1,700 students enrolled; business data processing, 1,092; drafting, 1,203; accounting and bookkeeping, 2,041; practical nursing, 1,357; auto mechanics, 2,136; supervisory training, 2,429; stenography and secretarial courses, 3,585; and welding, 3,979. (See Table 22.) Over half of the programs (53 percent) had less than 100 students enrolled during the year, while almost a third (30.2 percent) had less than 50 students enrolled.

Programs are divided into seven areas of general training: agriculture, distributive education, health, home economics, office occupations, technical, and trade and industrial. In the vocational schools the largest area in both training and enrollments is trade and industrial education with 57 different programs and a cumulative enrollment of 19,276 in the 1969-70 fiscal year. Office occupations also had a large enrollment—9,930 with eight different programs. Agriculture and home economics had the smallest enrollments and the fewest programs offered. Agriculture had 137 students and three programs, while home economics had 208 students and four programs. (See Table 24.)

Instituting New Programs

Directors of vocational-technical schools generally recognize the need for new programs in several ways: (1) business and industry request training in new fields, (2) a number of students apply for the program even though it is not being taught, or (3) other interested persons make requests for the program. Once a director recognizes

Figure 4. Percent Increase in Louisiana Vocational-Technical School Enrollments Over 1965-66, By Field of Study

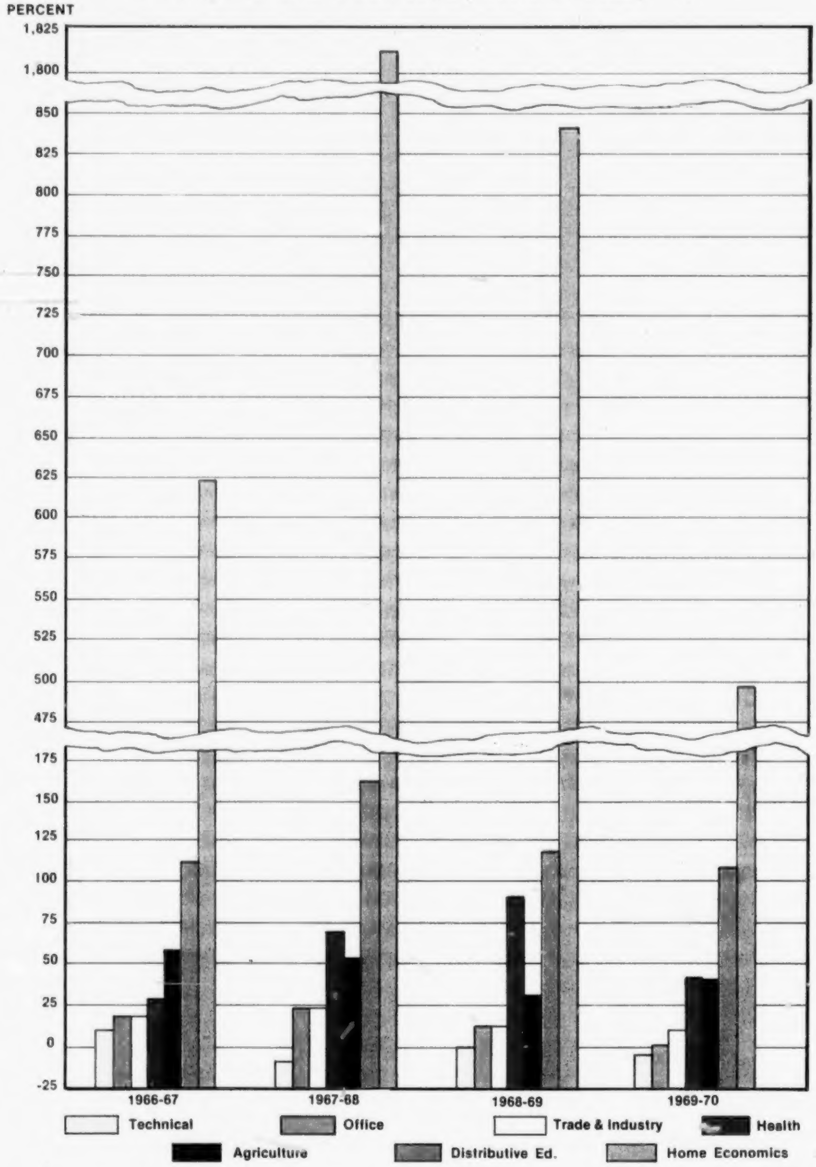


Figure 5. Cumulative Louisiana Vocational-Technical School Enrollments in Training Areas as a Percent of the Total

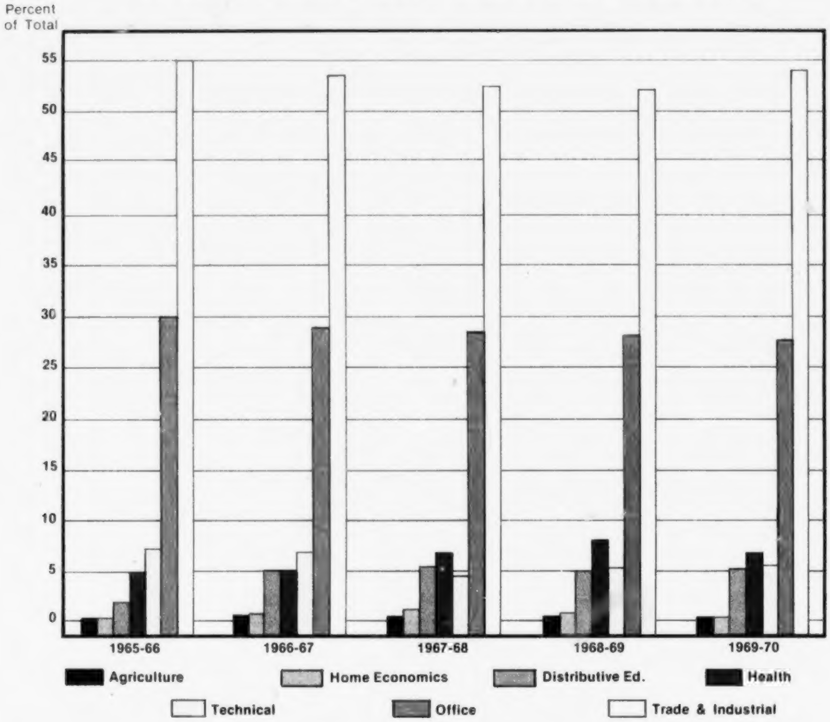


Table 24. Cumulative Enrollments in Louisiana Vocational-Technical Schools By Training Area, 1969-70

Training Area	Enrollments	No. of Programs
Agriculture	137	3
Distributive Ed.	1,869	10
Health	2,428	7
Home Economics	208	4
Office Occupations	9,930	8
Technical	2,031	12
Trade and Industrial	19,276	57

SOURCE: PAR questionnaires to Louisiana vocational-technical schools.

the need, he organizes a study or survey to determine whether the new program would be justified. This survey can be made by personnel at the school, an advisory committee (if one exists at that school), the local chamber of commerce, the State Department of Employment Security or the State Department of Education. To institute the program there must be sufficient employment opportunities for at least five years, space and instructors available for the program, an estimated cost of starting the program, projections of future costs and interested potential students. During this planning process, a curriculum is usually designed, although sometimes one already exists and is available at the curriculum development center. If there is no available curriculum, or if a curriculum exists but is felt to be unsuitable, a craft or occupational committee is appointed, usually by the director, to survey other states and design a curriculum for that school. This committee also estimates the costs involved in instituting the course. This information is then presented to the State Department of Education, generally in the form of a budget request. If approved by the department, the request is forwarded to the State Board of Education for approval of the new program as well as funds to finance it. If the budget increase is not appropriated by the Legislature, funds sometimes may be obtained, in emergency cases, from the Department of Commerce and Industry, the State Department of Education or the State Board of Liquidation.

Programs are usually discontinued if the enrollment drops below a certain level over a period of time, usually 10 students.

Curriculum Center

The State Board of Education maintains a Curriculum Development and Research Center which is located at the Natchitoches Trade School on the campus of Northwestern State University. Funds for the center are comingled in the Natchitoches school's budget, and hence cost data is not available.

The name of the center is misleading; its primary purpose is to reproduce curricula materials and maintain a sufficient stockpile to be sent to the vocational-technical schools upon request. The center does no research nor does it develop special curricula for particular schools. If a school desires a special curricula, it is usually up to the school to design it. However, if a sufficient number of schools wish to obtain a particular curriculum for a program, the center will organize a team to survey curricula developed in other states and, on the basis of this information, will modify the curricula to meet needs of

Louisiana's schools. The recommended curriculum is then submitted for approval to a committee of industrial and business leaders in the field. Revision of curricula is done irregularly as need is acknowledged.

The number and type of employees at the center indicate that it is primarily designed to print course materials. During fiscal 1971-72 there were 11 employees: an assistant director, a specialist, a supervisory clerk, four duplicating operators, a duplicating equipment supervisor, an illustrator, a typist and a Varitype operator. Salaries totaled an estimated $85,430 for 1971-72. No additional employees were requested nor budgeted for fiscal 1972-73.

STAFF

The schools were asked to indicate how many persons were employed in various areas in their schools. These were divided by type: administrative, counseling and guidance, instructional, secretarial and clerical, maintenance and other. Altogether there were 1,327 employees in the 33 vocational-technical schools during fiscal year 1970-71. The majority of the employees were full-time—775 or 58.8 percent. There were 982 instructors which was the largest category; 504 were full-time, and 478 were part-time. The part-time instructors generally taught the evening and apprenticeship programs. The staff at the majority of the schools was fairly small with between 10-30 employees for less than 1,000 students during a year. The number of employees ranged from three at Bienville to 362 at Delgado. (See Table 25.)

Most of the schools (18) had only one administrator who was the director of that school. The largest school, Delgado, had 4 full-time and 12 part-time administrators. The number of administrative personnel was fairly well related to the size of the school.

The number of counseling personnel was extremely limited at all schools. Delgado was the only school which indicated that it had more than one counselor, and only 12 schools stated they had a full-time counselor. In addition, three schools had a part-time counselor. Seventeen schools had no counselor at all. When asked who did the counseling, these schools indicated that either the director or the instructors spent anywhere from one percent to 35 percent of their time counseling students.

The remainder of the employees were secretarial, clerical and maintenance workers.

Table 25. Personnel at Louisiana Vocational-Technical Schools, 1969-70

School	Administrative		Counseling		Instructional		Secretarial & Clerical		Maintenance		Other		Total
	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time	Full Time	Part Time	
Alexandria	3	---	1	---	23	16	4	---	4	---	---	---	51
Baton Rouge	3	---	---	---	21	40	4	1	2	---	---	3	74
Bienville	---	---	---	---	1	---	1	---	---	1	---	---	3
Capitol Area	1	---	---	1	6	8	2	---	1	---	---	---	19
Central Area	1	---	---	---	7	4	2	---	1	---	---	---	15
Concordia Parish	1	---	---	---	5	4	1	---	1	---	---	---	12
Delgado	4	12	---	17	92	168	42	5	22	---	---	---	362
Delta Area	1	---	---	---	7	3	1	---	1	---	---	---	13
Evangeline Area	1	---	---	1	9	6	2	---	1	---	---	---	20
Florida Parishes	1	---	---	---	3	4	1	---	1	5	---	---	15
Gulf Area	1	---	---	---	11	6	2	---	1	---	---	---	21
Hammond Area	1	---	---	---	9	8	2	---	1	---	---	---	21
Huey P. Long	1	---	---	---	6	---	1	1	1	---	---	---	10
Jefferson Davis	1	---	---	---	6	4	2	1	---	---	---	5	19
Jefferson Parish	3	---	1	---	28	37	4	---	2	---	2	---	77
Memorial Area	2	---	1	---	13	4	2	---	1	---	---	---	23
Natchitoches	3[a]	---	1	---	11	---	4[a]	---	1	---	8[a]	---	28
North Central Area	1	---	---	---	8	1	1	---	1	---	---	---	12
Northeast Louisiana	1	---	---	---	6	3	2	---	1	---	---	---	13
Northwest Louisiana	1	---	---	---	9	8	1	---	1	---	---	---	20
Opelousas Area	1	---	---	1	7	4	2	---	2	---	---	---	17
Orleans Area	1	---	---	---	10	7	3	---	4	---	---	---	25
Ouachita Valley	3	---	1	---	18	21	3	---	1	---	---	10	57
Sabine Valley	1	---	---	---	10	8	2	---	2	---	---	---	23
Shreveport-Bossier	2	---	1	---	32	31	4	---	3	---	---	---	73
South Louisiana	2	---	1	---	10	7	2	---	3	---	---	---	25
Southwest Louisiana	2	---	1	---	15	9	2	---	2	---	---	---	31
Sowela	3	---	1	---	34	23	5	---	4	---	---	---	70
Sullivan	2	---	1	---	19	9	3	---	1	---	---	---	35
Teche Area	1	---	---	---	10	8	2	---	1	---	---	---	22
T. H. Harris	3	---	1	---	37	11	6	---	5	---	---	---	63
Westside	1	---	---	---	7	6	2	---	1	---	---	---	17
Young Memorial	2	---	1	---	14	10	2	---	2	---	---	---	31
TOTAL	55	12	12	20	504	478	119	8	75	6	10	18	1,317

[a]Includes personnel of the Curriculum Development Laboratory.

SOURCE: PAR questionnaires to Louisiana vocational-technical schools.

Requests for Additional Personnel

The schools were asked to indicate all personnel that they were going to request in the 1971-72 fiscal year. The number of additional personnel requested by the schools totaled 120 persons, 96 of whom were instructors. Half of the new instructors requested were additional persons in programs already being taught in the schools, while the other half were for new programs.

Over half of the requests for instructors were in trade and industrial programs—the programs with greatest enrollment. A large number were also in health occupations where there is an expanding need.

In addition to instructors, 10 guidance counselors were requested for 1971-72 as well as some clerical and maintenance personnel. However, only five of the 17 schools without guidance counselors indicated that they were requesting counselors.

The 1971-72 budget as presented to the Legislature by the governor included funds for only two additional persons for the 33 schools. One was an instructor while the other was a secretary.

Personnel Requirements

Qualifications for personnel at the state's vocational-technical schools are established by the state plan. Directors, who are appointed by the State Board of Education, must have a baccalaureate degree, 24 student semester hours in professional education, 15 semester hours in vocational-technical education, a vocational-technical certificate, three years of experience as a postsecondary counselor or instructor, two years of supervisory or administrative experience, and two years of related work experience.

Assistant directors, who are also appointed by the state board, must have a baccalaureate degree, 15 semester hours in professional vocational-technical education, a vocational-technical certificate, three years of experience as a postsecondary counselor or instructor, and two years of practical work experience.

Although school directors have responsibility for hiring their faculty, teacher certification requirements are established for each of the seven instructional areas. These requirements are:

Agriculture—Baccalaureate in agriculture and practical experience.

Distributive—Baccalaureate in distribution and 2 years' work experience.

Health—Professional license and 2 to 3 years' work experience.

Home Economics—Baccalaureate in home economics.

Office Occupation—Baccalaureate in office occupation and 2 years' work experience.

Technical—High school diploma or equivalent and 6 years' work experience or baccalaureate in area and 2 years' work experience.

Trade and Industrial—High school diploma or equivalent and 6 years' work experience or baccalaureate in area and 2 years' work experience.

All teachers at vocational-technical schools must have a vocational-technical certificate, and all personnel who meet the educational and occupational experience requirements are issued this certificate. Temporary certificates can be issued to those who do not fully meet the certification requirements. To renew a temporary certificate, an instructor must earn at least three semester hours in professional vocational education each year until 15 semester hours have been completed, at which time the certificate becomes permanent.

Qualifications of Faculty

The vocational-technical schools reported on qualifications of their faculty as of February 1971.

The instructional personnel for *preparatory* programs at the schools had considerable experience in the field in which they taught. All but 177 of the 566 preparatory instructors had over 6 years' experience; 124 had 6 to 10 years' experience; 161 had from 11 to 20 years' experience; and 104 had over 20 years' experience.

All but 29, or 5.1 percent, of the preparatory instructors had education beyond high school; 39 percent had some college training but not a baccalaureate degree. The majority (55.8 percent) had a baccalaureate; 17.8 percent, a master's; and 1.2 percent, a doctorate. All instructors with doctorates were at Delgado.

The 329 instructors in *extension* programs at the vocational-technical schools were all part-time. While these teachers did not have as much experience as preparatory instructors, over half had more than 6 years' experience in their field of instruction. Their educational background was similar to that of preparatory instructors.

The 87 *apprentice* instructors, all part-time, had approximately the same amount of work experience as extension instructors, but generally less education. Still, over 60 percent had some education beyond high school.

STUDENTS

Data was gathered concerning students who attended the vocational-technical schools—their characteristics, success or failure after they left school, school policies and charges, and various services provided students. Student policies vary considerably among the schools.

Admissions Policies

There is no uniform policy on admissions. The State Board of Education has established what might be called an "open-door" admission policy to all those age 16 and over. However, a true open-door policy cannot be said to exist because the schools lack sufficient faculty and facilities to accommodate those who wish to be admitted. Considerable discretion is apparently allowed individual directors as to whether they will accept students on a "first come, first serve" basis. Some schools follow this policy so long as places are available, while other schools give tests and require that certain scores be attained and certain aptitudes be shown before admission is permitted.

Further, some programs require a specific educational background while others require no previous educational training. Programs for technological, health and office occupations in most cases require a high school diploma or equivalent for admission, but even so, requirements tend to differ from school to school. The nursing, barbering and cosmetology admission requirements are governed by professional licensing associations.

Some schools may ignore the needs of disadvantaged students by "creaming" off the better students through high entrance requirements. This represents a trade-off, reflecting the school's desire to improve its public image but possibly at the expense of students with the greatest needs who may have no other place to go for training.

Educational Deficiencies

Schools reported that many of the students applying were found to be educationally deficient in the basic areas of mathematics, reading and English. Although there was a wide variation in the percentage of applicants that the vocational schools found to be deficient, the average was about 40 percent. There were 23 schools that indicated they either had remedial programs or provisions for a limited number of students who were deficient in these areas to enter the regular program and receive the help they needed. Most of the schools indicated that they had to counsel many of the applicants who had deficiencies to look elsewhere for help before they could enroll in any program at the schools.

Student Charges

There is no established tuition charge for Louisiana students at vocational-technical schools other than at Delgado. However, many schools require that students pay fees to cover the cost of books and supplies for particular programs. According to data as of February 1971, these charges varied greatly, depending upon the program and the school. For example, charges for accounting and diesel mechanics varied from no charge to $380; charges for practical nursing varied from no charge to $300; charges for auto mechanics, radio and television service, machine shops and welding varied from no charge to $200.

Student Characteristics

Some people are under the impression that the poorer type students attend the state's vocational-technical schools, but there has been no data to confirm or refute such impressions.

In an effort to determine the characteristics of students attending the state's vocational-technical schools, PAR surveyed the records of students enrolled in these schools during the 1970-71 fiscal year. Information collected included such characteristics as age, sex, residence, educational level and prior work experience.

A sample of 5,381 students was obtained which represented 14 percent of the 38,455 students enrolled during 1970-71. The method used was a "disproportionate systematic sample" with the size of the sample decreasing proportionately as the size of the school enrollment increased. An effort was made to have a large enough sample to examine the student characteristics by school.

In examining the characteristics of students, data was divided as to whether the student was enrolled in a preparatory, extension or apprenticeship program. In the sample, 68.4 percent of the students were in preparatory programs, 26.9 percent in extension programs and 4.6 percent in apprenticeship programs. Of those enrolled in the preparatory program, 92.1 percent were full time; 99.8 percent of extension students and 100 percent of the apprentices were part time.

AGE: The median age of all students sampled was 21.9 years; 22.6 percent of the students were below 18, and 22.4 percent were over 30. The median age of those enrolled in preparatory programs was 20.9 years, while the trade extension programs attracted an older group (median age 27.3). The median age of those enrolled in apprenticeship programs was 23.5 years. In the preparatory programs 17.5 percent of the students were over 30; 35.7 percent of the trade extension students were over 30; but only 3.6 percent of the apprentices were over 30.

Among the 33 schools, the median age for all programs ranged from a low of below 18 to a high of 28.9. (See Table 26.)

Table 26. Characteristics of Students Attending Louisiana Vocational-Technical Schools, 1970-71

Schools	Median Age	Race		Sex		Education		% Residing In Same Parish As School	% In School Less Than 6 Mos.
		% White	% Black	% Male	% Female	% 11 Grade & Below	% Some College & Over		
Alexandria	22.8	85.9	14.1	63.8	36.3	18.9	5.0	85.5	48.0
Baton Rouge	22.6	95.3	4.7	58.5	46.1	7.2	19.6	75.4	46.8
Bienville	below 18.0	81.7	18.3	23.1	77.0	77.0	0	87.2	50.0
Capitol Area	21.2	3.1	96.9	29.4	70.7	17.8	17.1	83.3	62.3
Central Area	NA	5.2	94.8	NA	NA	NA	NA	NA	NA
Concordia Parish	19.5	82.5	17.5	51.5	48.6	46.0	2.0	72.9	56.0
Delgado	23.4	81.2	18.8	89.6	10.2	21.4	10.3	69.7	44.5
Delta Area	21.9	2.0	98.0	53.2	45.8	21.4	6.5	67.1	49.0
Evangeline Area	20.7	13.8	86.2	69.0	31.1	35.3	3.4	48.7	48.4
Florida Parishes	19.3	91.1	8.9	62.0	38.1	35.3	5.7	26.8	58.8
Gulf Area	20.8	85.9	14.1	65.6	34.5	48.0	2.0	86.1	52.1
Hammond Area	21.9	86.5	13.5	50.0	50.0	19.5	10.5	75.0	42.2
Huey P. Long	20.9	88.5	11.5	50.4	49.7	45.1	3.8	59.2	65.1
Jefferson Davis	19.9	83.9	16.1	66.7	33.4	48.5	1.7	90.0	64.8
Jefferson Parish	20.6	78.2	21.8	57.6	42.4	44.0	4.0	69.6	52.1
Memorial Area	24.4	51.9	48.1	83.2	16.9	61.0	3.6	35.0	66.7
Natchitoches	21.5	78.4	21.6	45.7	54.4	22.9	13.1	82.7	43.2
North Central Area	20.4	86.9	13.1	55.3	44.8	47.7	2.7	65.0	46.4
Northeast Louisiana	19.9	82.4	17.6	60.7	59.4	42.8	6.2	73.8	55.4
Northwest Louisiana	22.7	84.9	15.1	55.0	45.0	17.2	10.2	72.5	21.5
Opelousas Area	20.1	1.9	98.1	63.1	36.4	43.5	1.9	84.1	57.7
Orleans Area	27.0	...	100.0	66.1	34.0	48.1	7.9	95.2	48.0
Ouachita Valley	23.9	92.0	8.0	65.5	34.2	27.1	10.4	77.4	60.3
Sabine Valley	21.7	77.9	22.1	45.9	54.2	34.5	1.1	62.5	69.7
Shreveport-Bossier	28.9	96.9	3.1	52.3	47.8	23.1	2.5	76.3	47.1
South Louisiana	21.7	88.7	11.3	58.8	41.3	22.1	9.2	NA	61.2
Southwest Louisiana	21.1	78.1	21.9	73.5	26.6	38.7	5.7	74.4	45.3
Sowela	23.1	81.9	18.1	58.9	41.2	17.8	17.0	92.5	38.6
Sullivan	20.2	90.6	9.4	52.8	47.3	26.0	3.8	82.5	41.7
Teche Area	20.3	85.6	14.4	61.4	38.7	30.5	5.7	83.5	68.9
T. H. Harris	19.9	86.9	13.1	66.1	34.0	25.0	5.1	56.0	50.5
Westside	23.5	10.0	90.0	50.4	49.7	28.0	16.4	63.1	42.6
Young Memorial	23.9	81.3	18.7	65.1	35.0	46.5	4.0	87.5	45.6
All Schools	21.9	78.5	21.5	61.5	38.5	29.9	8.2	74.0	50.6

NA—Data not available.

SOURCE: PAR survey of records of Louisiana vocational-technical schools. Racial data collected by State Department of Education.

The age of students attending vocational-technical schools appeared to depend largely on the type of programs offered at particular schools.

RACE: Information on race was not available from records at most schools at the time PAR did its survey. However, the federal government subsequently required that racial data be provided on vocational students, beginning in the fiscal year 1970-71, and PAR obtained this information from the State Department of Education.

Racial data collected by the State Department of Education in conformance with federal requirements classified students as Negro, American Indian, Oriental, Spanish Surname and Other (primarily white). For simplification, PAR indicated only white and black categories; those classified as Indians and Orientals numbered only 33 and were included in the "white" category even though they could have been classed as nonwhite.

White students comprised 78.5 percent of the vocational-technical school enrollments during the 1970-71 year while blacks made up 21.5 percent. According to 1970 census data, blacks constituted 29.8 percent of Louisiana's population.

At the previously black schools the statewide average enrollment was 94.7 percent black and 5.3 percent white. However, at the previously white schools the white students comprised 84.8 percent and blacks 15.2 percent. The Orleans Area school continued to have an all black enrollment. All other schools had some white and black students, with the percentage of white students ranging from 1.9 percent at Opelousas to 96.9 percent at Shreveport-Bossier.

The previously white schools had more desegregation of their student body than did the previously black schools. The percentage of white students at previously black schools ranged from none to 13.8 percent of the enrollment. However, at the previously white schools the percentage of black students ranged from 3.1 percent to 48.1 percent. (See Table 26.)

SEX: PAR's survey indicated that a fairly even proportion of males and females attended vocational-technical schools for the preparatory programs (58.4 percent male and 41.6 percent female). However, males predominated in the evening and apprenticeship programs. In the evening programs the males constituted 63 percent of the enrollment, and they accounted for 99.6 percent of the students in apprenticeship programs.

Considerable variance in the percentage of males and females at the various schools seemed to be due mainly to the type of programs offered by the schools. (See Table 26.)

EDUCATION: The majority of students enrolled in the vocational-technical schools had completed the 12th grade.

In the sample, 29.9 percent of those enrolled had not finished high school while 8.2 percent had had some college. Of those with college training, the sample included 54 students who had finished college and 13 students with advanced degrees.

Among the schools the percentage of students with an 11th grade education or less ranged from 7.2 percent to 77 percent. The range of students with 1 year of college or more was from none to 17.1 percent. (See Table 26.)

Certain programs had a tendency to draw students with more education than others. For example, over half of those enrolled in auto and diesel mechanics had less than a high school education. Over 40 percent of those in welding and machine shop had not finished high school. On the other hand, almost one fifth of those in instrumentation technology had some college, and less than 5 percent had not finished high school.

RESIDENCE: Almost three fourths of the students resided in the same parish in which the school they attended was located; 22.7 percent resided in contiguous parishes, and a few lived in non-adjacent parishes or out-of-state. There was a wide variation among schools in the percentage of students from the same parish, ranging from 26.8 percent to 95.2 percent. (See Table 26.)

PREVIOUS AND PRESENT EMPLOYMENT: Not all of the schools maintained records on the previous and present employment of students. Data on work experience was available for 2,571 students (or 47.8 percent of the sample) and data on present employment was available for 2,727 (or 50.7 percent).

Almost 60 percent of the students for which data was available had worked prior to attending vocational-technical school while only 35 percent were working while in school. A much higher percentage of evening and apprenticeship students had worked prior to entering school than preparatory students.

LENGTH OF TIME IN SCHOOL: Information was gathered on preparatory students who left the vocational-technical schools in the 1968-69 and 1969-70 fiscal years as to the length of time they were enrolled. There were 4,666 students sampled. Persons enrolled for less than a week were eliminated from the sample.

Half of the sample were enrolled in the vocational-technical schools for less than 6 months, while 23.8 percent were enroiled for 6 to 11 months. There was a wide range among individual schools in the length of attendance. For example, the proportion of students enrolled for less than 6 months ranged from 21.5 percent at one school to 69.7 percent at another. (See Table 26.)

One reason so many students leave school early might be that the schools are meeting their primary objective—that is, preparing people to enter the work force. For example, a number of students who begin a welding program may leave the school to take jobs as third or fourth class welders after completing only a part of the entire welding program. Hence, inasmuch as such students desired training sufficient to get a job and were able to gain employment prior to completing their program, their objectives were accomplished. This reason appears to be somewhat substantiated by the results of the follow-up study discussed below. Some refer to vocational students who do not complete their course of study as "early completers" rather than "dropouts."

SUMMARY OF STUDENT CHARACTERISTICS: Characteristics of students differed among schools, caused to some extent by the course offerings. However, a synopsis of predominate student characteristics among all schools reveals:

21.9 years was the median age.
78.5 percent were white.
61.5 percent were males.
70.1 percent had at least a high school education.
74.0 percent lived in the parish in which the school was located.
50.6 percent attended the vocational-technical school less than six months.

Follow-Up on Students

Although a few schools have made limited efforts to follow up on students leaving their school, no statewide study existed. Hence, PAR undertook such a study. Names and addresses as well as some characteristics of students who attended vocational-technical schools in the 1968-69 and 1969-70 fiscal years were obtained from records at the schools. A follow-up questionnaire was sent to these students to determine why they left school, what types of jobs they had, whether their training was helpful, and salary ranges. The follow-up questionnaire was mailed to 4,666 former students, and replies were received from 1,898 or 40.7 percent of those sampled.

REASON LEFT SCHOOL: The major reason given for leaving school was completion of the program (37.6 percent). The only other reason frequently given was employment prior to completion (19.6 percent).

It appears that the older students were more likely to complete the program. Military service and marriage tended to affect those in the younger age groups as a reason for leaving school.

More students with at least a high school education completed their programs than those with less than a high school education (40 percent vs. 30 percent).

EMPLOYMENT: Almost two thirds of the students who left school were later employed, most full-time; 11.2 percent were not available for employment; 15.8 percent were unemployed and available for employment; and another 6.5 percent were in the military service.

Fewer males were unemployed (16.7 percent) than females (37.6 percent). Of the unemployed, 67.0 percent of the males and 59.8 percent of the females were available for employment. However, there were fewer males (12.9 percent) among the unemployed who were available for employment than females (23.8 percent).

The major reasons given for being unavailable for employment were marriage (36 percent) and attending another school (28 percent). Almost half of the males who were unavailable for employment were attending another school, and almost 50 percent of the females who were unavailable listed marriage as the reason.

The percentage of those employed full-time increased steadily in relation to the amount of time spent in a vocational-technical school—from 59.1 percent for those in a vocational-technical school for less than six months to 76.3 percent for those enrolled more than two years. It appears that the longer a person receives training in a vocational-technical school, the better chance he has for gaining employment.

The program with the highest percentage of unemployed was office occupations (39.7 percent) while instrumentation had the lowest (7.6 percent). The majority of students in office occupations were female.

LENGTH OF TIME BEFORE FIRST JOB: Almost half of the students (48.8 percent) had no waiting period before they found their first job after leaving school, and another 13.4 percent found a job within a month after leaving school. However, 13.2 percent never found a job.

Generally, the lower a person's educational level, the longer it took to find a job, and those students who remained in school longer were more likely to find a job immediately.

EMPLOYMENT RELATED TO TRAINING: Almost half of the former students (47.9 percent) managed to obtain their first job in the occupational field in which they were trained at a vocational-technical school. Employment in the same program area increased with the amount of time spent in school. The majority of those who completed the program or who were employed prior to completion obtained jobs in the same field in which they were enrolled.

However, training related to jobs varied among occupations. For example, 82.1 percent of those who were in the nursing program were employed as nurses while only 31.4 percent of those in auto mechanics were employed as auto mechanics. Nevertheless, the majority of the students in every program got jobs in either the field in which they were trained or in related areas.

INCOME: Former students were asked to indicate their monthly salary in hundred dollar intervals up to $600. Responses indicated 26.6 percent made less than $300 a month while 14.4 percent made over $600. The median monthly income increased with age and length of time spent in school.

Females had a lower median monthly income ($385) than males ($464). While 25 percent of the males earned over $600 per month, only 1.9 percent of the females did.

The program in which the students were enrolled appeared to be the major factor in income. This could be expected since salaries for some types of jobs are lower than others.

TRAINING HELPFUL: Those former students who found jobs were asked if the training they received at the vocational-technical school was helpful in preparing them for their new positions. Of those responding, over half (53.9 percent) indicated that the training helped them a great deal. However, 12.3 percent indicated that the training gave them little or no help. A far larger proportion (over 70 percent) of those who completed their program indicated that their training helped them a great deal.

EVALUATION OF PROGRAM: Former students were asked to rank eight aspects of their training as to whether each was excellent, adequate or poor. The aspects were (1) ability of instructors, (2) help from counselors, (3) adequacy of classrooms, (4) adequacy of facilities and equipment, (5) textbooks and instructional material, (6) background theory, (7) practical application of training to job, and (8) the training program generally.

More than 40 percent of the students ranked all eight factors as excellent, and less than 10 percent ranked them all as poor. Ability of instructors had the largest percentage of students ranking it as excellent (68.5 percent). Factors receiving the lowest percentage of students ranking them as excellent were adequacy of classrooms (41.6 percent) and adequacy of facilities and equipment (44.6 percent). Over half (53.8 percent) of the students ranked their training programs generally as excellent. (See Table 27.)

Table 27. Former Student Evaluation of Louisiana Vocational-Technical Schools

Factors	Excellent	Adequate	Poor
Ability of Instructors	68.5%	27.3%	4.1%
Advice and Help From Counselors	55.3	35.0	9.7
Adequacy of Classrooms	41.6	49.6	8.8
Adequacy of Facilities and Equipment	44.6	45.6	9.8
Textbook and Instructional Material	55.1	39.6	5.3
Background Theory	44.2	49.9	5.9
Practical Application of Training to Job	51.1	42.9	6.0
Training Program Generally	53.8	42.0	4.2

*Survey of students who attended vocational-technical schools in 1968-69 and 1969-70.

SOURCE: PAR questionnaires to former students of Louisiana vocational-technical schools.

CONTINUED EDUCATION OR TRAINING: Another question asked former students was if they had continued their education or training and if so, the type of training or education in which they had participated. Half indicated that they had continued either their education or training; company training, apprenticeship or in-service training was received by 23.2 percent. Slightly over 5 percent went back to high school or obtained a high school equivalency, while 10.2 percent went to college.

STUDENT SERVICES

To enable students to attend vocational-technical schools and to provide an adequate educational environment, several kinds of student services would seem necessary. Data collected on services provided students as of February 1971 revealed that student services are either quite limited or nonexistent at most of the vocational-technical schools.

Financial Aid

Some students need financial assistance to attend vocational-technical schools even though student charges are nominal. To obtain information, PAR asked the schools to report on the types of financial assistance available and the number of students participating at each school. According to data received, there are numerous types of financial aid, but only a small proportion of students participate. The schools reported just under 2,000 students, or about 4 percent of the cumulative total enrollment, received some form of student assistance.

Three fourths of the students receiving financial aid participated in programs funded through federal acts either totally or with matching state funds. These programs included work-study under the Vocational Education Amendments of 1968 and the Higher Education Act of 1965, training grants through the Law Enforcement Assistance Administration, vocational rehabilitation for handicapped students, and loans authorized under the National Defense Education Act. A few students received assistance through federal manpower programs, i.e., WIN and MDTA institutional.

The only state-administered programs to assist students reported by the schools were the student loan program through the Louisiana Higher Education Assistance Commission and stipends from the Department of Hospitals for practical nursing. Only 56 students were reported as participating in these two programs. According to data of the Louisiana Higher Education Assistance Commission, during fiscal 1971-72, only 41 students attending the vocational-technical schools received student loan assistance, and this amounted to $21,024. For the same period, the commission arranged for loans to 7,553 college students totaling $6.3 million. Part of the problem is that some school directors failed to sign agreements required by law which would make their students eligible for loans from the Higher Education Assistance Commission. Only 22 of the 33 school directors signed agreements according to the commission. Moreover, some directors may fail to advise students of the availability of such loans; the schools lack student aid personnel to counsel students. Finally, since the student loan program is financed through banks, credit unions and savings and loan associations, some of these financial institutions may feel that students attending vocational-technical schools are poorer risks than students attending college.

The state does provide some funds for student labor, and about 200 students in the vocational-technical schools received such aid.

A few students had scholarships and loans financed through private sources such as civic organizations.

Thirteen of the schools felt that the lack of financial aid was a problem at their school. Recommendations for improving the situation put forth by these schools included greater use of the state student loan program, increased scholarships and more state funds to match federal funds for student aid programs.

Transportation

Twenty-one of the schools had bus transportation available for their students. This transportation is provided free in 11 schools by the local school boards in their respective areas while 12 additional schools owned their own buses and charged the students at least 1 cent per mile. (Two schools had both types of transportation.)

Most of the schools commented that they felt that the transportation provided should be free as it is in the other public educational institutions such as elementary-secondary schools and some colleges.

Twelve of the 21 schools with bus transportation felt that transportation was still a problem, either due to the need for additional buses and/or lack of free buses. Four of the 12 schools without buses felt that their students were in need of bus transportation to the school.

State law (R.S. 17:1711) provides that local school boards may furnish transportation at no cost to students attending any college or vocational-technical school under the State Board of Education or the LSU Board. While state board policy requires students who ride buses owned by the vocational-technical schools to pay for transportation, students who ride buses owned by local school boards and colleges do not have to pay.

Auxiliary Facilities

Most vocational-technical schools do not have cafeterias, lounges or libraries. Although students need a place to eat and schools need facilities to provide training in food services, only five schools have food service facilities. Only two of the 33 schools have central library facilities.

Guidance

Guidance was extremely inadequate. In a 1970 report of the U. S. Office of Education, *Trends in Postsecondary Education*,[4] Louisiana was cited as having no systematic program for securing employment for graduates, a result of its very limited guidance system.

There were only 12 full-time guidance counselors in the 33 vocational-technical schools in 1969-70, the last year for which data is available. There were 20 part-time counselors, but 17 of these were at Delgado and only a small part of their time was spent on guidance. Delgado was the only vocational-technical school with more than one counselor; 17 schools had no counselor. If part-time counselors are counted as a one-fourth full-time counselor, then there were 2,461 students per counselor at the vocational-technical schools. If the ratio is restricted to preparatory students only, there were 1,112 preparatory students per counselor.

Testing is an important aspect of counseling at the vocational-technical schools. Tests are used to determine suitability for admission to a program as well as educational deficiencies. All schools except Bienville and Jefferson Davis gave tests. Vocational aptitude tests were given at 21 schools, intelligence tests at 28, achievement tests at 28, and vocational interest tests at 16. A total of 34 different tests were given at the schools. There was no standardization in testing procedures—different tests were used for the same program at different schools and when the same test was used, different scores were required at different schools for the same programs. In many of these schools, tests were given and interpreted by persons with no training in the methods and use of testing.

INDUSTRY RELATIONS WITH VOCATIONAL-TECHNICAL SCHOOLS

Employers can play a vital part in insuring that training programs at vocational-technical schools are geared to job needs. Hence, PAR sought to find out the extent of contact between industry and the vocational-technical schools in 1971. The 243 industries in Louisiana hiring 200 or more persons were contacted, and 122 (50.2 percent) responded.

About half (60) of the 122 firms responding to a PAR questionnaire had had recent contact with the vocational-technical schools.

However, only 18 firms had been contacted regularly to find out about their needs; 53 had been contacted irregularly; and 50 firms had never been contacted by the vocational-technical schools.

Over half of the firms (65) did not use vocational-technical school students as a source for filling their entry-level positions. Major reasons given for not using such students were: (1) the firms employed only unskilled labor (19 firms); (2) programs taught were irrelevant to the needs of the company (45 firms); and (3) there were no positions to be filled (13 firms).

Of the 57 firms that did use vocational-technical students, two thirds indicated that they were satisfied with the training. Primary reasons for dissatisfaction among the other 19 firms were that courses were not well taught and training was not applicable to their current needs.

Suggestions for Improvement

Industrial respondents offered a number of suggestions for improving the vocational-technical schools:

1. Update curricula.
2. Place more emphasis on basics.
3. Standardize curricula among the various schools.
4. Institute on-the-job training in more occupations.
5. Improve counseling.
6. Improve facilities.

Several of the firms had favorable comments, such as:

> **Our experience with the local public vocational-technical school has been favorable. It is anxious to assist in meeting training needs. The craft training at the school appears to be very adequate.**
>
> **As one of the larger industries in Northeast Louisiana, we feel that ________________ school is of great service to us as well as the other industries of the area.**
>
> **Vocational-technical training could be a valuable asset for job improvement. We are trying to sell the idea and use more of it. In the community, we have urged over 300 people to take advantage of the vocational-technical school.[5]**

GENERAL IMPRESSIONS OF VOCATIONAL-TECHNICAL SCHOOLS

While the gathering of data can give insight into how the vocational-technical schools operate, on-the-site observation can also prove helpful. PAR did not attempt to evaluate scientifically these schools through visits, but over the past year PAR researchers did visit every vocational-technical school in the state to gather information for surveys of students. These visits afforded an opportunity to gain impressions of the schools through observations, discussions with school administrators, and conversations with students and residents of the community.

Facilities and Equipment

Facilities at vocational-technical schools are generally in poor condition and inadequate. They are often old and always quite limited. Eating facilities, assembly rooms and lounges are nonexistent at most schools. Lunch is usually eaten from a space cleared among iron filings of the machine shop, in a narrow corridor with students sitting on the floor, or in a classroom. Classrooms are usually crowded.

The administrative office is normally filled with a stream of prospective students asking whether there is an opening for them. Some equipment appears to be out-of-date; much of it was not bought by the state but, rather, was scavenged from the community. Materials for some buildings were begged from local businesses. School directors and instructors at some schools have themselves built several facilities or obtained voluntary labor. They do repair work without compensation.

Staff

Staffs appeared to be hard-working and dedicated in most instances. Their workdays often stretched beyond the normal 8 hours. Perhaps one factor that motivated them was that the success and failure of vocational educators was very real and immediate. Whether a task was done determined whether students got jobs, and this was their ultimate objective. Even secretaries at some schools exuded enthusiasm about the vocational education program.

Visits were made prior to the election for office of the state superintendent of education, and unfortunately there was obvious political involvement at several schools. Although this appeared to occur in only limited instances, such activity on the part of state employees should not be countenanced.

Students

As data collected by PAR indicates, the types of students at vocational-technical schools vary greatly. Youths and older adults were comingled in training programs. Most appeared to be serious about their training and indicated a desire to learn.

Instruction

Vocational-technical schools use a great deal of individualized instruction which is appropriate because of the different backgrounds, stages of progress and goals of students. Students seemed to be able to learn and work on their own initiative as well as with others.

Recordkeeping

School records were inadequate, doubtless due to lack of staff. Some schools did better than others, but virtually all schools failed to keep records needed to evaluate their students and the effectiveness of their programs. Recordkeeping was not standardized among schools; they had different admission forms and different records to record student progress. Some schools used a postcard form to follow up on their students while other schools did nothing. Recordkeeping was often not even systematized within schools; instructors kept their own records on attendance and student progress, with little direction from the school administration. In short, there was no statewide system and often little evidence of a system within individual schools.

Community Relations

Schools varied greatly in their relations with the community, especially with business and industry. Some schools had almost constant contact with business and industrial leaders, while others apparently had virtually no contact. Some schools used community leaders to assist them in planning curricula, job placement and providing materials the state did not provide. Some schools worked with high schools and civic organizations such as the local chamber of commerce while others ignored such groups.

INSTITUTIONS OF HIGHER EDUCATION

Awards below the baccalaureate level (associate degrees, certificates and diplomas) are a fairly new phenomenon among Louisiana's institutions of higher education, although not in other states. In 1969-70, the latest available data from the National Center for Educational Statistics of the U. S. Office of Education, institutions of higher education throughout the United States conferred 134,129 awards for the completion of occupational programs below the baccalaureate level.[6] Louisiana institutions conferred only 609 of these, most of which were by Delgado. The new development in Louisiana is no doubt in response to a recognition that the many youths who drop out of college prior to graduation, with little to show for their effort other than that they have "been to college," must have acquired some knowledge, even though not measurable by a bachelor's degree. It is also due to a recognition that there is a growing need in Louisiana and throughout the country for postsecondary education below the bachelor's degree to meet shortages in technological manpower needs as well as to provide optional career choices.

Postsecondary occupational programs offer a logical answer to the large proportion of students who start but never finish college. An award below the baccalaureate can provide job specialization and allow those desiring some college as well as college dropouts to avail themselves of less than a 4-year program. Unfortunately, data is not available in Louisiana nor nationwide as to the percentage of college students who withdraw from degree programs to enter subbaccalaureate programs.

Another potential source of students for specialized training below the bachelor's degree is industry itself, which often encourages its employees to pursue educational programs to increase their usefulness—sometimes to the extent that industry pays the full cost. Industries frequently undergo technological modifications which require that employees receive additional education.

Louisiana's Coordinating Council for Higher Education in its 1972 master plan urged that the state's colleges and universities move into the area of subbaccalaureate technical and paraprofessional programs:

> Institutions of higher education should establish and expand programs designed to provide terminal (one-and two-year unit) and corridor (two plus two) technical and paraprofessional programs to accommodate the needs and time available for achieving the individual's educational and career goals.[7]

The council warned that there was a danger that there could be overlapping between the postsecondary vocational-technical programs of colleges and the vocational-technical schools but felt that this could be resolved:

> Although some semantic problems appear to be involved in drawing distinctions between vo-tech programs and collegiate-technical edu-

> cation, the current differences are sufficiently operational for planning purposes. The vo-tech institutes offer programs directed primarily toward acquiring or improving specific work skills. Technical and para professional (or college-parallel) education offered by the universities, on the other hand, requires a knowledge of basic principles of science in addition to the application of these principles to specific problems. Major program emphasis is given to the acquisition of scientific and technical knowledge with work skills as a corollary. Moreover, these programs require a high school diploma as a prerequisite for admission. The distinctions between the two kinds of education should be continued.[8]

ENROLLMENTS

A PAR survey revealed that Louisiana's public and private colleges and universities enrolled 1,940 students in 24 different vocational-technical programs in the fall of 1971, with specialization ranging from training for positions just below the professional level to training for much less specialized positions. In some programs, only a certificate was offered while in others students were eligible for an associate degree. Some programs prepared students for immediate employment with a terminal degree while in other programs credit was also simultaneously transferable toward a bachelor's degree.

Table 28 indicates fall 1971 enrollments in subbaccalaureate vocational-technical programs by program and institution. The largest enrollments were in business and office occupations (704) and health (401). Nicholls had the most students enrolled (359), followed by USL (326), McNeese (269), Northeast (238) and Northwestern (199); all of these institutions are under the State Board of Education.

Only two privately supported institutions—Centenary and Loyola—offered subbaccalaureate vocational-technical programs. Some of the private colleges indicated that they did not feel that offering vocational-technical programs was a function of a private liberal arts school.

As shown in Table 29, collegiate enrollments in vocational-technical programs in Louisiana have more than tripled during the 5-year period, 1966 to 1971, from 573 to 1,940. Table 30 shows that numerous new programs have been approved but were not yet instituted in the fall of 1971. Gaps in offering a range of technical and paraprofessional programs are gradually being filled.

Few courses offered in the colleges nor those newly approved were taught in the vocational-technical schools. Only one of the health occupations courses was offered at the vocational-technical schools and then only in a few schools. Office occupations was offered in both places as well as in the private schools and secondary schools. There were a few programs in the technologies area being offered at the vocational-technical schools as well as in the colleges and universities, such as architectural technology, aviation technology, instrumentation, drafting, electronics technology and law enforcement technology. Enrollments in both the colleges and universities and the vocational-technical schools were not large in any of these programs with the exception of drafting.

COUNSELING AND GUIDANCE

Colleges and universities appeared to have more formal counseling personnel than the vocational-technical schools. Only one campus, LSU-Medical Center, indicated that it did not have counseling personnel compared to the 17 vocational-technical schools without counselors. The number of college counselors ranged from one to 14 in each institution of higher education. These counselors were assigned to various departments of the institution; however, most were assigned to student services or guidance and testing centers. In the 14 public colleges and universities with vocational-technical programs, there were 77 persons whose major responsibility was student counseling. When the two private colleges were added, the total increased to 91 counselors. Since these counselors also aided students not enrolled in vocational and technical programs, there could be no real measurement of the ratio of students per counselor.

JOB PLACEMENT SERVICES

Nine of Louisiana's 16 colleges and universities with subbaccalaureate vocational-technical programs indicated that they had a formal placement program. The majority of those with a placement program rated it as the most frequently used method of placing students. The two other methods most frequently used for placing students were through specific requests by employers and faculty who maintained contacts with industry and business.

COMMENTS

Many of the institutions of higher education commented that they were not doing enough to help students interested in vocational-technical studies. Some felt that subbaccalaureate

Table 28. Enrollments in Subbaccalaureate Vocational-Technical Programs,

	Public Schools					
Program Areas	**Grambling**	**LSU–Alexandria**	**LSU–Eunice**	**LSU–Medical Center**	**LSU–Shreveport**	**McNeese**
Business and Office Occupations						
Computer Technology	—	—	—	—	—	—
Secretarial Science & Office Adm.	—	—	34[a]	—	36[b]	152[b]
Total	—	—	34	—	36	152
Distribution						
Merchandising & Marketing	—	—	—	—	—	—
Total	—	—	—	—	—	—
Engineering Techs.						
Architectural Tech.	—	—	—	—	—	—
Automotive Tech.	12[a]	—	—	—	—	—
Aviation Tech.	—	—	—	—	—	—
Building Tech.	1[a]	—	—	—	—	—
Chemical Tech.	—	—	—	—	—	—
Drafting Tech.	26[a]	—	—	—	—	—
Electrical Tech.	—	—	—	—	—	22[b]
Electronics Tech.	18[a]	—	—	—	—	75[b]
Engineering Tech.	—	—	—	—	—	—
Tool and Dye Design Tech.	—	—	—	—	—	—
Total	57	—	—	—	—	97
Health						
Dental Hygiene	—	—	—	—	—	—
Electroencephalographic	—	—	—	6[a]	—	—
Med. Lab. Tech.	—	—	—	—	—	—
Mortuary Science	—	—	—	—	—	20[b]
Nursing	—	119[b]	—	—	—	—
Total	—	119	—	6	—	20
Home Economics						
Food Service Tech.	—	—	—	—	—	—
Total	—	—	—	—	—	—
Technologies—Other						
Law Enforcement	—	—	—	—	—	—
Printing	—	—	—	—	—	—
Woodworking	—	—	—	—	—	—
Total	—	—	—	—	—	—
Other						
Teacher Education	—	—	—	—	—	—
Social Welfare	—	—	—	—	—	—
Total	—	—	—	—	—	—
Grand Total	57	119	34	6	36	269

[a] Certificate.
[b] Associate Degree.
[c] Diploma.
[d] Not Available.

SOURCE: PAR questionnaires to Louisiana colleges and universities.

Louisiana Colleges and Universities–Public and Private, Fall 1971

Public Schools								Private Schools			
Nicholls	North-east	North-western	St. Bernard	South-eastern	Southern-N.O.	USL	Total Public	Centenary	Loyola	Total Private	Total Public & Private
2[b]	—	1[a,b]	—	—	—	—	3	—	—	—	3
108[b]	169[a]	92[b]	24[d]	—	40[a]	—	655	42[b]	4[a]	46	701
110	169	93	24	—	40	—	658	42	4	46	704
—	—	29[b]	—	—	—	—	29	—	—	—	29
—	—	29	—	—	—	—	29	—	—	—	29
—	—	—	—	9[b]	—	—	9	—	—	—	9
—	—	—	—	—	—	—	12	—	—	—	12
—	—	39[c]	—	—	—	—	39	—	—	—	39
—	—	—	—	—	—	—	1	—	—	—	1
—	—	2[b]	—	—	—	—	2	—	—	—	2
—	—	21[b]	—	5[b]	—	—	52	—	—	—	52
—	—	—	—	—	—	—	22	—	—	—	22
—	—	9[b]	—	—	—	—	102	—	—	—	102
30[b]	—	—	—	—	—	—	30	—	—	—	30
—	—	2[b]	—	—	—	—	2	—	—	—	2
30	—	73	—	14	—	—	271	—	—	—	271
—	—	—	—	—	—	—	—	—	55[b]	55	55
—	—	—	—	—	—	—	6	—	—	—	6
6[b]	—	—	—	—	—	—	6	—	—	—	6
—	—	—	—	—	—	—	20	—	—	—	20
195[b]	—	—	—	—	—	—	314	—	—	—	314
201	—	—	—	—	—	—	346	—	55	55	401
26[b]	—	—	—	—	—	—	26	—	—	—	26
26	—	—	—	—	—	—	26	—	—	—	26
—	69[a]	—	—	66[b]	—	—	135	—	—	—	135
—	—	1[b]	—	—	—	—	1	—	—	—	1
—	—	2[b]	—	—	—	—	2	—	—	—	2
—	69	3	—	66	—	—	138	—	—	—	138
—	—	1[b]	—	—	—	326[c]	327	—	—	—	327
—	—	—	—	—	52[a]	—	52	—	—	—	52
—	—	1	—	—	52	326	379	—	—	—	379
367	238	199	24	80	92	326	1,847	42	59	101	1,948

Table 29. Trend in Enrollments in Subbaccalaureate Vocational-Technical Programs, Louisiana Colleges and Universities—Public and Private

Program Areas	Fall 1966	Fall 1967	Fall 1968	Fall 1969	Fall 1970	Fall 1971
Business & Office						
Computer Tech.	—	—	—	—	—	3
Sec. Sci. & Off. Adm.	472	531	478	451	564	701
TOTAL	472	531	478	451	564	704
Distribution						
Merch. & Mktg.	—	7	25	24	28	29
TOTAL	—	7	25	24	28	29
Engineering Tech.						
Architectural Tech.	—	—	—	18	12	9
Automotive Tech.	—	—	—	—	—	12
Aviation Tech.	—	—	—	—	10	39
Building Tech.	—	—	—	—	—	1
Chemical Tech.	—	—	—	—	1	2
Drafting Tech.	—	17	16	30	29	52
Electrical Tech.	11	20	14	19	19	22
Electronics Tech.	28	73	79	76	71	102
Engineering Tech.	—	—	—	—	—	30
Tool & Dye Tech.	5	—	1	3	3	2
TOTAL	44	110	110	146	145	271
Health						
Cytotechnology	—	1	2	2	1	—
Dental Hygiene	25	30	30	34	52	55
Electroencephalographic	3	3	3	5	3	6
Medical Lab Tech.	—	—	—	—	—	6
Mortuary Tech.	—	27	27	15	19	20
Nursing Tech.	29	32	146	131	187	314
TOTAL	57	93	208	187	262	401
Home Economics						
Food Service	—	—	—	—	—	18
TOTAL	—	—	—	—	—	18
Technology, Other						
Law Enforcement	—	—	—	—	65	135
Printing	—	—	—	1	1	1
Woodworking	—	3	2	1	2	2
TOTAL	—	3	2	2	68	138
Other						
Teacher Education	—	—	126	194	383	327
Social Welfare	—	—	—	—	40	52
TOTAL	—	—	126	194	423	379
GRAND TOTAL	573	744	949	1,004	1,490	1,940

SOURCE: PAR questionnaires to Louisiana colleges and universities.

Table 30. Subbaccalaureate Vocational-Technical Programs Approved But Not Yet Instituted or No Enrollments in Fall 1971

AGRICULTURAL TECHNOLOGY
- Animal Science
  - Southern-N. O. (no enrollments)[a]
- Farrier (Horseshoeing) Technology
  - Northwestern (new)[b]
- Livestock Technology
  - Northwestern (new)[b]
- Ornamental Horticulture and Turf Management
  - Northeast (new)[b]
- Plant Science or Technology
  - Southern-N. O. (no enrollments)[a]
  - Northwestern (new)[b]
- Veterinary Technology
  - Northwestern (new)[b]

BUSINESS AND OFFICE OCCUPATIONS
- Accounting
  - Northwestern (new)[b]
- Computer Technology
  - Northwestern (new)[a,b]
  - Southeastern (new)[b]
- Office Administration
  - L. S. U.-Alexandria (new)[b]
  - L. S. U.-Eunice (new)[b]
  - L. S. U.-Shreveport (new)[b]
  - Northwestern (new)[b]
- Management Assistant
  - L. S. U.-Eunice (new)[b]

ENGINEERING TECHNOLOGY
- Air Conditioning and Refrigeration
  - Grambling (no enrollments)[a]
  - McNeese (new)[b]
- Broadcasting Technology
  - Northeast (new)[b]
- Building Inspection
  - Northeast (new)[b]
- Chemical Technology
  - L. S. U.-Eunice (new)[b]
  - Southeastern (new)[b]
- Electrical Technology
  - Grambling (no enrollments)[a]
- Electronics Technology
  - Southeastern (new)[b]
- Geological Technology
  - Northeast (new)[b]
- Instrumentation Technology
  - Southeastern (new)[b]
- Metal Technology
  - Grambling (no enrollments)[a]
  - Southeastern (new)[b]
- Water and Waste Technology
  - Louisiana Tech (new)[b]

HEALTH
- Cytotechnology
  - Northwestern (no enrollments)[a]
- Dental Hygiene
  - L. S. U.-Medical Center (new)[b]
  - Northeast (new)[b]
- Nursing
  - Louisiana Tech (new)[b]
  - Northwestern (new)[b]
- Occupational Therapy
  - Louisiana Tech (new)[a,b]
- Operating Room Technology
  - Northeast (new)[b]

TECHNOLOGIES, OTHER
- Law Enforcement
  - Southeastern (new)[b]
- Photojournalism
  - Northeast (new)[b]
- Printing
  - Southeastern (new)[b]

OTHER
- Air Stewardess Training
  - Northeast (new)[b]
- Day Care Assistant for the Handicapped
  - Northeast (new)[b]
- Day Care and Nursery Management
  - Northeast (new)[b]
- Teacher Education
  - Northeast (no enrollments)[a]
  - Northeast (new)[b]
  - Northwestern (new)[a]

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[a] Certificate.
[b] Associate Degree.

SOURCE: Louisiana Coordinating Council for Higher Education and PAR questionnaires to Louisiana colleges and universities.

programs could be developed on existing college campuses at minimum additional expense by using facilities already at hand to provide general education components of English, mathematics and science; only a minimum number of additional faculty was felt to be necessary. One institution commented that "all institutions are in the position to meet demands of the respective community with only modest increases in operating budgets in college level programs."[9] Another institution suggested: "Regional programs designed to meet the requirements of different areas of the state should be established at each of the Colleges & Universities under the State Board of Education."[10]

The coordinating council recommended in its master plan that: "All associate degree technical programs should be designed in accordance with employment demand and labor market requirements."[11]

One college administrator also felt that surveys of industry needs should be made to assure that vocational-technical education will not become antiquated and that needs of industry are known. Unfortunately, while institutions of higher education are now rushing into instituting subbaccaulaureate vocational-technical programs, this development is necessarily unplanned since explicit data on Louisiana's manpower needs is lacking. Some collegiate courses have been instituted which appear to have limited demand.

Some colleges have suggested that they offer programs in fields that are strictly trade and industrial and thus could conflict with curricula at the vocational-technical schools. Failure to specifically define the role and scope of institutions of higher education could plague future expansion in this important area.

MANPOWER PROGRAMS

Louisiana was late in entering the federal manpower programs, but it now has numerous ones which, like most other states, are uncoordinated and expensive for the results achieved. The following is a discussion of some of Louisiana's manpower programs.

MANPOWER DEVELOPMENT TRAINING ACT (MDTA) INSTITUTIONAL

There are three types of MDTA classroom training—institutional, less-than-class and upgrade. The institutional segment has by far the largest enrollment in Louisiana (over 1,000); the other two categories combined involve only about 100 persons a year.

Although the federal government has made the MDTA program available since 1962, Louisiana was the last state to accept the program and missed receiving 2 years' funding at the initial 100 percent level; funding since 1964 has been on a 90-10 basis. Approximately 70 classes a year are presently offered in Louisiana. To date, programs have been offered in 42 different occupations. Over an 8-year period, about three fourths of those completing training have been placed in jobs.

MDTA classes have been conducted entirely apart from the state's vocational-technical schools except for several programs for prison inmates. MDTA classes are generally conducted in rented facilities in Louisiana. In most other states, MDTA programs are usually offered through vocational-technical schools, community colleges and other public education facilities. Louisiana's policy of avoiding the combination of vocational training for the disadvantaged with the general population tends to place a stigma on trainees within the manpower programs. Moreover, much of the federal funding for MDTA facilities and equipment could have been used by vocational-technical schools.

A recent study of manpower programs in four major cities across the country noted that, even where these programs use facilities of public schools, they have been isolated from the rest of the public school system. Denver's experience was singled out as particularly successful since MDTA operations were integrated with the city's community college.[12]

Table 31 presents program and placement information for the MDTA institutional operations in Louisiana for fiscal 1969-70. The less-than-class and upgrade programs are excluded. The number of enrollees exceeded the number of available trainee slots due to dropouts and those leaving a program prior to completion to accept employment. Of the total number enrolled in courses during fiscal 1969-70, nearly a third dropped out prior to completion. Of those completing programs, nearly three fourths were placed in jobs, although not always in jobs related to the training provided. A few of the programs were particularly unsuccessful in placing trainees in jobs, but for the most part, these programs were not repeated. Those programs used most extensively tended to have high initial placement.

MANPOWER DEVELOPMENT TRAINING ACT (MDTA), ON-THE-JOB TRAINING (JOP)

Louisiana's MDTA on-the-job training program, administered by the State Department of Employment Security, received $1.1 million

Table 31. Institutional Projects of Department of Employment Security, Fiscal 1969-70*

Occupation	Slots	Number Enrolled	Number Completed	Number Employed		Not Available	Unem-ployed	Drop-outs	Dropout Categories**		
				Training Related	Nonrelated				a.	b.	c.
Alteration Tailor	20	21	20	1	4	---	15	1	1	0	0
Autobody Repairman	75	100	60	35	6	2	17	40	9	27	4
Automobile Mechanic	80	125	79	60	11	2	6	46	10	30	6
Basic Education	30	32	30	6	---	---	24	2	0	2	0
Diesel Mechanic	20	26	10	8	1	---	1	16	3	10	3
Draftsman	40	47	33	18	7	2	6	14	6	5	3
Electric Appl. Serv.	60	73	45	23	9	2	11	28	6	16	6
Farm Equipment Mech.	20	23	16	4	1	---	11	7	0	3	4
Gasoline Engine Repair	20	23	16	16	---	---	—	7	3	2	2
Household Appliance Rep.	40	55	34	12	3	5	14	21	1	15	5
Meat Cutter	50	50	39	21	6	2	10	11	1	6	4
Medical Record Clerk	15	16	10	5	---	1	4	6	3	3	0
Office Machine Operator	20	27	18	14	1	2	1	9	3	6	0
Presser Machine	20	20	17	15	---	2	---	3	2	1	0
Production Mach. Oper.	20	26	18	16	---	---	2	8	3	4	1
Stenographer	60	75	59	46	---	4	9	16	4	11	1
Surgical Technician	50	53	39	30	---	6	3	14	8	6	0
Vending Machine Repair	20	29	18	3	3	1	11	11	2	5	4
Ward Clerk	50	50	43	33	---	3	7	7	1	5	1
Welder, Combination	80	169	117	98	13	3	3	52	9	39	4
TOTAL	790	1,040	721	464	65	37	155	319	75	196	48

*Information does not include any projects for upgrading purposes since those who would be trained are already employed.

**Dropout categories:

a. Health reasons, death, moved from area, care of family.
b. Poor attendance, lack of progress, loss of interest, misconduct.
c. Accepted employment, returned to school, entered armed forces.

SOURCE: Louisiana Department of Employment Security.

during fiscal 1970-71 to develop subcontracts with employers for training slots. The department wrote 260 contracts covering 917 training positions involving some 200 separate occupations. The contracts averaged $929 per training slot. Employers are expected to pay for productive labor, and trainees are provided supplemental living allowances.

Trainees under the JOP program have not been provided supportive services, nor has the program been coupled with MDTA institutional training.

JOB OPPORTUNITIES IN THE BUSINESS SECTOR (JOBS)

JOBS, designed to encourage private industry to train the hardcore unemployed and underemployed, is jointly administered by the U. S. Department of Labor and the National Alliance of Businessmen (NAB). Louisiana has three regional offices, staffed and operated by NAB, to contact businesses and encourage job placements. Participating businesses are funded directly by the U. S. Department of Labor. The cost of the program in Louisiana and the nation approximates $2,000 per trainee slot per year.

Usually the larger firms absorb extra costs of training without federal reimbursement while smaller firms generally receive compensation. Small participating businesses have formed consortiums throughout Louisiana to contract with private firms to provide counseling, basic education, health and other special services for trainees.

There has been little emphasis in Louisiana on developing youth programs established nationally by NAB; however, increasing concern is being placed on serving returning veterans.

NAB administrators in Louisiana note that, unlike other states, Louisiana lacks the types of manufacturing industries where low skill workers can be placed in large numbers. As a result, the JOBS program has relied heavily on placing trainees in service occupations where the number of placements per business is generally quite limited.

OPERATION MAINSTREAM

Operation Mainstream, designed for older rural adults, had only 200 persons enrolled in Louisiana during fiscal 1970-71 at an average cost of $2,237 per person. This program offers little, if any, job training but rather, provides work in developing and beautifying rural communities.

WORK INCENTIVE PROGRAM (WIN)

The WIN program, aimed at training persons 16 and older on welfare, had 1,500 slots budgeted during fiscal 1970-71, but due to turnover, more than 2,000 persons were served.

Formal vocational training is provided to many WIN clients through contracts developed on an ad hoc basis with private schools, hospitals and individuals. Minimal use is made of the state's vocational-technical schools; the reason given is lack of facilities, inadequate offerings and inaccessibility of the schools.

One of the greatest problems in WIN operations nationally has been the high incidence of early termination, amounting to as much as 80 percent of total enrollees. Another problem is placing WIN clients in jobs. Specific data on completions and job placements for Louisiana is not available.

NEIGHBORHOOD YOUTH CORPS (NYC)

The NYC, whose objective is to provide financial support to youths from poor families, involves a number of Louisiana teenagers. The summer program is by far the most extensive, involving more than 13,000 Louisiana participants in 1971. A major attraction of this program is its potential for helping avert the occurrence of "hot" summers and reducing juvenile crime. The other 2 programs—"in-school" and "out-of-school"—assist about 3,000 disadvantaged youths. The cost of all programs averages $340 per slot annually. Administrative regulations authorize a payment of $1.25 an hour for a weekly maximum of 32 hours. A participant may remain in the program for two years.

The NYC program provides some basic education instruction, through economic opportunity associations, to help enrollees attain General Educational Development (GED) certification for high school achievement. Placement of clients in vocational-technical schools has been limited, partially due to lack of available space in appropriate classes.

CONCENTRATED EMPLOYMENT PROGRAM (CEP)

The CEP, which aims at consolidating various MDTA programs into a single program, has only one operation in Louisiana—in New Orleans. The New Orleans CEP program, in its fourth year of operation, is sponsored by Total Community Action, Inc. (TCA).

TCA has established a skills center which is apart from the public education system. CEP contracts with the State Department of Education to provide basic education and job training at the center. Under MDTA funding, the Bureau of Vocational Education of the State Department of Education has provided skill training, including as many as 10 programs offered simultaneously. CEP also provides institutional training programs and less-than-class training under the federal Economic Opportunity Act. More than 1,000 individuals were served by CEP during fiscal 1970-71; about half completed training programs.

Not all manpower programs are concentrated in the CEP program. TCA administers the NYC but not through CEP, and MDTA institutional programs are also offered in the New Orleans area, but in separate facilities and independent of CEP.

CEP is responsible for Neighborhood Recruitment and Training, a Model Cities Program funded by Housing and Urban Development (HUD). This program does not provide training, but serves to recruit personnel from the "model cities" area to be employed on "model cities" projects. Counseling is provided by a subcontractor, the Multi-Racial Corporation.

JOB CORPS

The Job Corps, established to provide general and vocational education to persons between 16 and 21 who are not in school, who are unemployed or who are in "dead-end" jobs, has had difficulty attracting recruits nationally, but not in Louisiana. In fact, Louisiana has enabled the region to fill its quota by making up for deficits in neighboring states.

Since none of the 65 Job Corps training centers throughout the country is located in Louisiana, it has been necessary to send Louisiana Job Corps youths out of state. Enrollees from Louisiana totaled 2,488 in fiscal 1969-70 and 2,922 in fiscal 1970-71, and they were sent to 21 different training centers. Information is not available as to performance of Louisiana trainees, since data available relates to performance of a particular training center.

The federally funded Gatehouse program provides halfway houses to assist returning Job Corps trainees in obtaining employment. There are two halfway houses in Louisiana—in New Orleans and Baton Rouge.

COOPERATIVE AREA MANPOWER PLANNING SYSTEM (CAMPS)

CAMPS was initiated by the federal government to coordinate manpower programs within a state into a unified plan. This voluntary cooperative approach has been unsuccessful in Louisiana as well as in other states.

The Louisiana statewide CAMPS plan for fiscal 1970-71 demonstrates the inadequacy of the planning mechanism. The state plan, following federal guidelines, brought together area committee plans and state agency program data and related them to estimated target populations. The CAMPS attempt to summarize all manpower-related programs is shown in Table 32; vocational-technical education is listed with resources of $7.2 million for fiscal 1970-71 while in actuality, expenditures approximated $18 million. In the progress report (Table 33), vocational-technical education accounted for an even smaller proportion of total resources.

Table 32. Summary of Louisiana CAMPS Manpower Program Resources for Planning, Fiscal 1970-71

Program	Resources Available			Persons To Be Served
	Total	Federal	Matching	
U. S. Dept. of Labor,JOBS	$ 3,646,000	$3,646,000	$ 0	1,215
Manpower Administration				
NYC (In-School)	1,430,832	1,430,832	0	2,293
NYC (Out-of-School)	2,041,600	2,041,600	0	658
NYC (Summer)	3,368,880	3,368,880	0	7,564
Operation Mainstream	372,400	372,400	0	98
Operation Mainstream (6 months)	185,500	185,500	0	100
La. Dept. of Public Welfare, Div. for the Blind	1,109,399	887,519	221,880	1,019
La. Dept. of Employ. Sec.				
MDTA Institutional	2,423,317	2,335,000	88,317	710
MDTA Less-than-Class	458,200	447,000	11,200	130
MDTA Part-time and Other	174,058	164,000	10,058	180+
OJT	578,000	578,000	0	688+
Job Corps	NA	NA	NA	3,183
WIN	1,548,751	1,239,000	309,751	1,500
La. State Dept. of Ed.				
Adult Basic Education	1,574,335	1,400,593	175,242	22,350
Vocational-Technical	7,152,112	2,447,961	4,704,151	42,359
Vocational Rehab.	13,500,000	NA	NA	32,000
Bureau of Apprenticeship and Training (SAC)	NA	0	NA	3,823+

NA—Information Not Available.

SOURCE: Louisiana Department of Employment Security.

Table 33. Louisiana CAMPS Report on Progress in Implementing Plans, Fiscal 1970-71

Program	Resources Available	Resources Used	Percent	Persons To Be Served	Persons Served	Percent
Adult Basic Education	$ 1,346,920	$ 1,301,463	97	14,729	14,729	100
Apprenticeship (SAC)	NA	NA	---	3,898	3,898	100
CEP III	2,758,836	NA	---	925	1,242	134
Job Corps	NA	NA	---	3,189	3,708	116
MDTA	3,598,000	3,598,000	100	1,020	1,020	100
NAB/JOBS (High Support)	NA	6,202,139	---	2,243	2,992	133
NYC (Summer)	5,687,609	1,876,909	33	13,213	13,213	100
NYC (In-School)	1,591,890	1,591,890	100	2,591	2,591	100
NYC (Out-of-School) I	899,000	863,040	96	329	329	100
NYC (Out-of-School) II	1,350,990	1,288,309	95	367	367	100
Operation Mainstream 1-B	447,159	252,196	56	100	100	100
Operation Mainstream 1-E	341,600	195,334	57	100	100	100
Vocational Rehabilitation	13,436,838	13,436,838	100	32,000	37,210	116
Dept. of Welfare, Division for Blind	997,000	972,000	97	1,019	1,497	147
Vocational-Technical	2,403,394	2,311,445	96	42,572	38,322	90
Work Incentive Program	1,347,860	1,220,025	91	1,500	2,058	137
Model Cities	9,200,000	NA	NA	NA	NA	NA
Gatehouse	81,124	81,124	100	2,150	2,460	---
Bureau of Apprenticeship and Training	0	0	---	3,882	3,882	100
JOP (Jobs Optional)	1,114,481	1,114,481	100	NA	917	---
Public Service Careers	315,200	NA	---	151	NA	---
Labor Education Advancement	96,488	NA	---	70	69	99

NA—Information Not Available.

SOURCE: Louisiana Department of Employment Security.

Louisiana's CAMPS plan did not attempt to evaluate the performance of programs; in fact, data is not available to do so. The progress report indicated the extent to which the number of persons projected to be served were served, but the definition of "served" is vague. For example, CEP is shown as "serving" 1,242 persons but only about 550 completed a training program. In another instance, vocational rehabilitation is reported as "serving" 37,210 persons, or 116 percent of the budgeted quota, yet only about one tenth of those participating received some form of training. In short, the CAMPS plan is misleading in attempting to provide an accurate picture of the operations and results of manpower programs in the state. Most planning is done by individual agencies which do not want a central state agency speaking for them.

APPRENTICESHIP PROGRAMS

Apprenticeship is training for skilled crafts or trades requiring a wide range of skills and knowledge as well as maturity and independent judgment. The apprentice receives thorough instruction and experience, both on and off the job, in all the practical and theoretical aspects of work in a skilled trade.

Apprenticeship programs generally last from 2 to 6 years, depending upon the trade or skill to be acquired. During this period the apprentice divides his time between on-the-job training under the supervision of a skilled craftsman (journeyman) and "related" classroom training. This related technical training is usually provided by the state-operated vocational-technical schools in evening courses. Apprentices are paid a percentage of the prevailing rate for journeymen.

ADMINISTRATION

The apprenticeship program is regulated by Louisiana law and is administered through the Louisiana Department of Labor. The Commissioner of Labor appoints a State Apprenticeship Council which oversees the program; it consists of three representatives from the employers, three representatives from employee groups and two members of the general public, as well as the commissioner of labor and the state education official in charge of trade and industrial education who serve ex officio. A major responsibility of the State Apprenticeship Council is to establish fair and uniform apprenticeship agreements as well as to issue rules and regulations to insure high and consistent standards for apprenticeship programs throughout the state.

The Commissioner of Labor also appoints the director of apprenticeship, with approval of the State Apprenticeship Council. The director serves as secretary of the council in addition to serving as secretary of each state joint committee. His main responsibility, however, is to administer the apprenticeship law. The director works with the council in establishing standards that must be met by all apprentices, and he also approves all apprenticeship agreements, issues certificates of completion and maintains records of all agreements and their disposition.

Each trade or group of trades involved in apprentice training has local joint committees and most also have a state joint committee. The local joint committees are appointed by the Apprenticeship Council unless there is a state joint committee for that trade.

Local committees work with vocational-technical schools regarding the related education of apprentices, and the committees also advise employers about schedule of operations, working conditions and prevailing wage rates. The state committees, on the other hand, attempt to coordinate the local committees so that there will be some uniformity throughout the state, especially in wage rates and requirements for completion of apprenticeship programs.

The number of apprentices being trained is limited by negotiated agreements between the local unions and the employers; this agreement must be approved by the Louisiana Department of Labor. Some maintain that the limited number of apprentices has resulted in a shortage of persons in the skilled crafts and trades. It is contended that both unions and employers have reasons to restrict the number of apprentices. Unions fear an oversupply of manpower and do not want persons to be trained while skilled journeymen may be unemployed. Employers may be reluctant to spend time and money training apprentices, particularly when such persons may be employed by others.

REQUIREMENTS

Apprenticeship applicants are screened by the local joint apprenticeship committees. There are certain basic requirements for entrance to an apprenticeship program. By law, an applicant must be 16 years old, have completed high school or the equivalent and be in good physical condition. In addition, the State Apprenticeship Council requires that an applicant must have passed aptitude tests and be willing to work on a regular basis and attend the related instruction classes.

After the applicant has been accepted by the Joint Apprenticeship Committee, he enters into a written apprenticeship agreement between him and the committee and is then registered with the Louisiana State Apprenticeship Council. The purpose of indenturing an apprentice to the committee is to assure rotation from one employer to another and continuity of employment. The apprenticeship agreement must specify that the apprentice complete the stated time of apprenticeship, which varies from 2 to 5 years and includes at least 144 hours per year of related education. In addition, the apprenticeship agreement must contain: ( ) the pay scale which the apprentice will receive; (2) the processes and training; and (3) a probationary period in which either party may cancel the contract.

Apprentices are paid a percentage of the prevailing journeyman's rate, with the beginning rate being between 40 and 60 percent. Every 6 months the percentage is increased until during the last 6 months of the program, the apprentice receives 90 percent of the journeyman's rate.

During the probationary period, the apprenticeship agreement may be canceled at the written request of either party. The current probationary period is 500 hours or 3 months, but several groups want this period extended to 2,000 hours or 1 year. After the probationary period the agreement is binding on both parties, and the agreement can only be canceled by the director of apprenticeship when good cause is given by one of the parties involved. Heavy emphasis has been placed on the importance of related knowledge. Nonattendance in related classes usually leads to dismissal of the apprentice from the program.

The machinist apprenticeship program offers an example of how on-the-job training and work experience is supplemented by related instruction; the related instruction includes trade theory, blueprint reading, mechanical drawing, trade mathematics and physics.

NUMBER

Louisiana had 4,169 apprentices in 98 different trades as of August 31, 1971. Table 34 lists the categories of training according to the U. S. Office of Education classification code. Almost two thirds of the apprentices were in the construction and maintenance trades which represent only 30 percent of the different trades. The other third were scattered throughout the other categories including automobile mechanics, metalworking, instrument technicians and printing occupations. Since 1940, when the first apprenticeship programs began in Louisiana, there have been 32,291 apprentices registered and over 60 percent completed the program.

Table 34. Louisiana Apprentice Enrollments as of August 31, 1971

Program[a]	Enrollments	Percent of Total
Agricultural Mechanics	11	0.3
Dental Technology	5	0.1
Orthopedic Technology	3	0.1
Mail Handlers	5	0.1
Engineering Related Technology	593	14.2
Appliance Repair	6	0.1
Automotive Services	104	2.5
Aviation Occupations	4	0.1
Business Machine Repair	37	0.9
Commerical Photography	1	b
Construction and Maintenance Trades	2,689	64.5
Diesel Mechanics	116	2.8
Drafting	2	b
Electrical Occupations	27	0.6
Electronics Occupations	73	1.8
Fabric Maintenance Services	2	b
Graphic Arts	67	1.6
Metal Working	340	8.2
Quantity Foods	23	0.6
Refrigeration	37	0.9
Small Engine Repair	6	0.1
Stationary Energy	3	0.1
Leatherworking	1	b
Upholstering	1	b
Woodworking	9	0.2
TOTAL	4,169	100.0

[a] All enrollments have been converted to the U. S. Office of Education Classification Code.

[b] Less than 0.1 per cent.

SOURCE: Louisiana State Apprenticeship Council.

PRIVATE OR PROPRIETARY SCHOOLS

Private schools tend to meet needs of limited numbers of students by providing specialized training for fairly specific jobs. Education in the broader sense is generally not a factor and if included, it is secondary to the goal of rapid development of marketable job skills. Private schools usually do well in placing their graduates in jobs.

Throughout Louisiana there are a number of privately owned and operated business schools, beauty and barber schools, and other vocational-technical schools which offer programs in specialized fields. However, there is no central source of information about these schools such as the number and their location, enrollments, curricula and output.

In an effort to obtain information about this source of vocational-technical education in Louisiana, PAR sent questionnaires to 177 private or proprietary schools which it located through various listings of approved schools as well as through the classified section of telephone directories. Of the 177 schools PAR contacted, completed questionnaires were received from 55 (31.1 percent), and an additional 12 schools reported that they had closed.

The 55 responding private schools enrolled 6,086 during the year 1970-71, an increase of 20.7 percent over the previous year. The schools reported that 92.5 percent of their students either completed the course or left with marketable skills during 1970-71.

Enrollments in private schools are rather small. No school had a cumulative enrollment of over 1,000 during 1970-71.

As shown in Table 35, business schools had the largest enrollment among the 55 responding schools, followed by seamanship schools and beauty and barber schools. Only enrollments at nursing schools decreased during the past 5 years. Although nursing schools had increased demand, the schools stated that they were unable to accommodate applicants because of the limited number of instructors and amount of space.

Table 35. Enrollments in Louisiana Private Schools (Sampling)

No. of Schools	Types of Schools	Number Enrolled 1966-67	1967-68	1968-69	1969-70	1970-71
11	Business	1,071	1,374	1,514	1,934	2,974
31	Cosmetology/Barber	620	680	744	852	1,020
4	Nursing	677	672	622	559	579
2	Radio/TV	86	109	112	103	100
2	Seamanship	147	1,115	1,193	1,316	1,133
5	Other (Art, Floral Design, Refrigeration, Welding)	172	245	259	290	280
55		2,773	4,195	4,444	5,044	6,086

SOURCE: PAR questionnaires to private schools.

The cost of attending private schools varied considerably; tuition ranged from $75 to $2,065 per course of study, depending upon the type, length and complexity of the program.

Louisiana has begun accumulating data on private vocational-technical schools under a new act (No. 311 of 1972) which provides for the licensing of such schools and creates an Advisory Commission on Proprietary Schools within the State Department of Education to administer the act.

Act 311 provides that no vocational proprietary school can operate in Louisiana after October 1, 1972 without a state license. The commission, which has already begun to function, is to review all applications for licenses and present its recommendations to the State Board of Education. In order to be licensed, schools must show that they are financially solvent, have qualified teachers, advertise free from fraud and misrepresentation, have facilities which meet public health standards, have a policy for student refunds of tuition, and have equipment similar to that used in business and industry. The schools must also post a $10,000 surety bond, and their solicitors must have a permit and be bonded.

INDUSTRY PROGRAMS

Little data is available in Louisiana concerning industry hiring practices and training programs. Questionnaires were sent to 243 manufacturing and industrial firms in Louisiana which included all firms that employ at least 200 people, regardless of type. These firms embraced nearly every facet of industrial activity in Louisiana. Completed questionnaires were received from 122 firms, or 50.2 percent of those contacted.

HIRING PRACTICES

MINIMUM AGE: The minimum age at which Louisiana firms will hire employees is usually 18. Of the 122 firms responding, the minimum age was

Number of Firms	Minimum Hiring Age
3	16
104	18
1	19
1	20
5	21
2	22
6	None

Source: PAR questionnaires to industries.

EDUCATION REQUIREMENTS: Few firms stipulated a minimum educational attainment for new employees. Only 38 firms (31.1 percent of those responding) set a minimum educational level. There were 28 firms that required at least a high school diploma or the General Education Development (GED) test equivalent. Of the 10 remaining firms, one required employees to have completed at least the 11th grade; two the ninth grade; and seven the eighth grade.

TESTING PROCEDURES: Almost half (54 firms) indicated that they test their employees at entry-level positions. These firms usually tested for clerical skills and manual tasks, and some firms gave additional examinations for reading comprehension and learning ability.

INDUSTRY TRAINING PROGRAMS

Industry plays an important role in providing training to its employees. Of the 122 industrial respondents, 49 indicated that they had training programs, and during 1970-71 these 49 firms trained 10,284 persons.

The number trained by type of firm was

No. of Firms	Types of Firms	No. of Employees Trained
11	Fabricated Metal, Machinery Electrical Equipment	2,856
1	Textiles	61
10	Lumbering and Paper Products	1,186
19	Chemical and Petroleum Products	6,053
5	Food Processing	58
3	Miscellaneous	70
49		10,284

Source: PAR questionnaires to industries.

There was a definite correlation between the size of the industrial firm and whether training was provided. The larger a firm, the more likely it was to offer training. An apparent reason is that a small firm has difficulty financing a training program for only a few people.

Most industries offered a large number of training programs at both the beginning and advanced job levels. However, industries in lumbering, paper products and food processing offered almost no courses at the advanced level.

Most instruction was given on an individual basis and within the plant site. The company usually paid the entire cost.

TRAINING FUND FOR NEW AND EXPANDING INDUSTRIES

Frequently industries considering moving into a state need a work force of local people; such manpower needs usually require immediate governmental action and a special training program.

While there have been exceptions, usually the budgets of the vocational-technical schools have been so strained that they have lacked funds to finance a special program for a new or expanding industry; hence, Louisiana may have missed chances to gain plants that would have provided jobs.

For a number of years, the state has appropriated funds for training prospective employees for new and expanding industries; the appropriation is made to the State Department of Education and expended with approval of the governor and the executive director of the Department of Commerce and Industry. During the period 1966 through 1968, $250,000 a year was appropriated to this fund; in 1969 the appropriation was reduced to $234,250; in 1970, to $199,113; and in 1971, to $97,000. The 1972 appropriation was increased to $194,000. However, little has been made available to the vocational-technical schools for training employees for new industry. Instead, most of the money has been used for training apparel workers, and training is usually on-the-job by employers. Louisiana is said to have created this fund to fill a void in federal vocational funding which stipulated that none could be used to train apparel workers. Having these funds at hand immediately to train needed employees is reputed to be an effective means of attracting garment industries.

Act 548 of 1972 creates a Job Reserve Fund within the budget of the State Department of Education, with money to be made available to the state vocational-technical schools "where new or different skills are needed by the people in an area of the state because of the influx of new industry or the expansion of existing industry."

FOOTNOTES

[1] Louisiana Advisory Council for Vocational and Technical Education, *Implementation of Career Education for Louisiana* (Baton Rouge: March 1972), 2.

[2] PAR questionnaire to local school systems.

[3] Louisiana Coordinating Council for Higher Education, *A Position Paper on Vocational-Technical Education in Louisiana* (Baton Rouge: February 2, 1971), 15.

[4] U. S. Office of Education, *Trends in Postsecondary Education* (Washington, D. C.: U. S. Government Printing Office, 1970), 242.

[5] PAR questionnaire to Louisiana industries.

[6] U. S. Office of Education, *Associate Degrees and Other Formal Awards Below the Baccalaureate, 1969-70* (Washington, D. C.: 1970), Tables 2 and 8.

[7] Louisiana Coordinating Council for Higher Education, *Master Plan Toward Balanced Growth in Louisiana Posthigh School Education: Quantity and Quality* (Baton Rouge: 1972), 3.

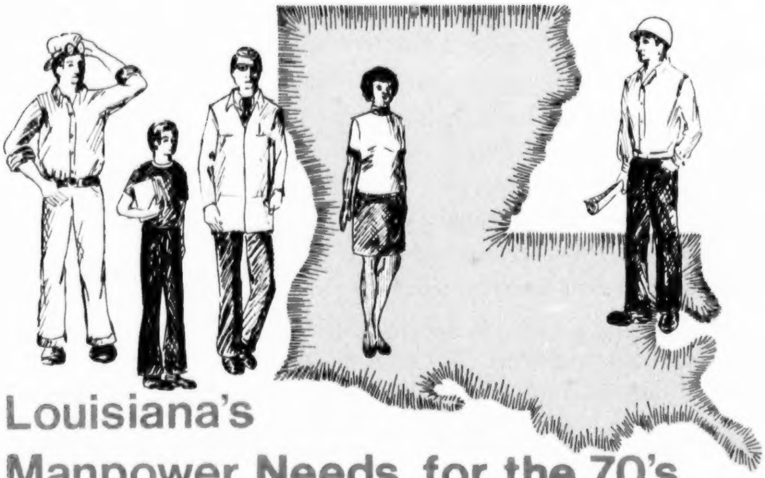
[8] *Ibid.*

[9] PAR questionnaire to Louisiana colleges and universities.

[10] *Ibid.*

[11] Louisiana Coordinating Council for Higher Education, *Master Plan*, 4.

[12] "Manpower Programs in 4 Cities," *Manpower* (January 1972), 8-12.



Louisiana's Manpower Needs for the 70's

Projections of manpower needs are extremely important in tailoring educational programs for future career opportunities. Since existing projections for Louisiana have not made full use of the U. S. Bureau of Labor Statistics industry-occupation matrix methodology, PAR undertook the projection of the state's manpower needs to 1980. (See the appendix for a description of the projection methodology used.)

This part presents a discussion of the industry expansion expected in Louisiana between 1970 and 1980 as well as the demand for new workers during this period. An analysis of the present vocational-technical training output is related to the projected manpower needs. As with any projection, it can only be useful if updated and revised each year to take into account factors that were unknown at the time original projections were made.

POPULATION AND LABOR FORCE

The labor force is that portion of the population 16 years old and older which is available for employment. In planning for vocational-technical education needs in Louisiana for 1980, a more useful target figure is the projected number of resident employed. The number of resident employed is determined as follows:

1. Projected Population 16 and Over, 1980	2,812,138
2. Labor Force Participation Rate	x 55.4%
3. Labor Force, 1980	1,557,924
4. Minus Armed Forces	-20,512
5. Civilian Labor Force	1,537,412
6. Minus Unemployed (3.5%)	-53,827
Resident Employed 1980 =	1,483,585

Population growth is determined by three factors: birthrates, deathrates and migration. The projection used here assumes that the relatively low birthrate of 1970 will continue, that deathrates will remain constant and that the 1960-1970 migration patterns will continue. The 11.8 percent change in Louisiana's total population between 1960 and 1970 (from 3,257,022 to 3,641,666) was lower than the national average of 13.3 percent. The projected 8.78 percent change for the state between 1970 and 1980 (from 3,641,666 to 3,961,470) is also lower than that for the lowest projection for the nation.

The "labor force participation rates," i.e., the proportion of the working age population that is employed, are projected to increase slightly and 55.4 percent of those 16 or over are expected to be working or seeking work in 1980.[1]

The armed forces portion of the 1980 labor force is the same ratio of state to national armed forces as existed in 1960. This assumes armed forces in 1980 to be consistent with peacetime conditions of the early 1960's.

The determination of the unemployed assumes a national unemployment of 3 percent. The 3.5 percent figure for Louisiana is used since the state's unemployment is typically higher than the national average.

The projected civilian resident employed for 1980 of 1,483,585 represents an increase over 1970 of 325,340, or a 28.1 percent increase.[2] The assumptions underlying this projection are quite optimistic and perhaps are unrealistic when present levels of armed forces and unemployment are considered. However, when planning to meet social goals, planners should aim to achieve optimum objectives.

In the case of vocational-technical education planning, these objectives should be to provide adequate training for all possible members of the labor force to prepare them for the jobs available in a full employment economy. Planning predicated on less expansive objectives would make the training system itself a major factor in hampering the development of a full employment economy.

The following sections explore the potential of the Louisiana economy and vocational-technical education to provide the projected one-third million new workers during the 1970's with adequate job training and employment.

SHIFTS IN DISTRIBUTION OF INDUSTRY EMPLOYMENT

The industrial composition of Louisiana's labor force is becoming increasingly more oriented toward services producing industries. The goods-producing industries (agriculture, mining, contract construction and manufacturing) declined as a proportion of total employment through the 1960's and are projected to decline further by 1980, to 30.1 percent.

	Number Employed		
	1960	1970	1980 (Est.)
Total All Industries	1,000,454	1,158,245	1,388,587
Goods-producing industries	363,416	375,216	417,645
Percent of Total	36.3%	32.4%	30.1%
Services-producing industries	637,038	783,029	970,942
Percent of Total	63.7%	67.6%	69.9%

Major gains in the goods-producing sector are expected only in the construction industry.

The services-producing industries (transportation, communications and public utilities; wholesale and retail trade; finance, insurance and real estate; services; and public administration) will grow 24 percent between 1970 and 1980—almost equal to the national average of 26 percent. The public administration category promises to grow at a much slower rate than the national average. The services industry will also grow more slowly than the national average, but it represents the largest expected growth in Louisiana employment of any industry category.

In general, Louisiana's industry employment expansion has closely approximated the national average expansion in recent years. This trend is expected to continue through the 1970's with a total annual average state industry expansion of 1.99 percent as compared with a national expansion of 2.09 percent.

The changes in the percent distribution of Louisiana's industry employment from 1960 to 1980 indicate several shifts in the relative proportion of different segments of industry employment:

1. The sharp decline in the percentage of those employed in agriculture corresponds to the national trend, which is also declining.

2. The proportion of Louisiana employment in mining, manufacturing and transportation, communications and public utilities is also declining in accordance with the national trend.

3. The percentage in trade and public administration is holding constant while increasing proportions are found in construction; finance, insurance and real estate; and services.

4. The most notable shift in the distribution of employment among Louisiana industries is the decline in the percentage in manufacturing. Although the national proportion of employment in manufacturing is also decreasing, that proportion was more than half again larger than Louisiana's proportion in 1960. Louisiana's failure to make substantial headway in closing this gap could be one of the most significant factors deterring general economic growth in the state during the 1970's.

Although industrial expansion is not the only source of new jobs, it is obvious that the 19.9 percent increase in employment projected for the period 1970-1980 compares poorly with the increase in the resident employed of 28.1 percent for the same period, as projected in the section above on population and labor force.

The following comments briefly describe the employment trends to 1980 in each of the major industry groups. (See Table 36 and Figure 6 for supplementary data.)

AGRICULTURE, FORESTRY AND FISHERIES

As explained in the section on methodology, the industry data presented in this report has been adjusted to the 1970 census base. As a result, employment in agriculture is understated to the extent that the April survey was not at the peak of the agricultural season and, more importantly, to the extent that dual jobholding is eliminated by the census' classification by primary job. Average annual employment figures used by the Department of Agriculture are nearly double the census total, reflecting a high proportion of part-time farmers or persons living on farms and depending primarily upon employment in another industry for the major share of their income.

As is discussed below, vocational training programs, particularly at the secondary level, have largely ignored the reality of employment trends in agriculture. Vocational training which is not geared to prepare an individual for his primary vocation may be justified on the same basis as any other elective program, but only if the training

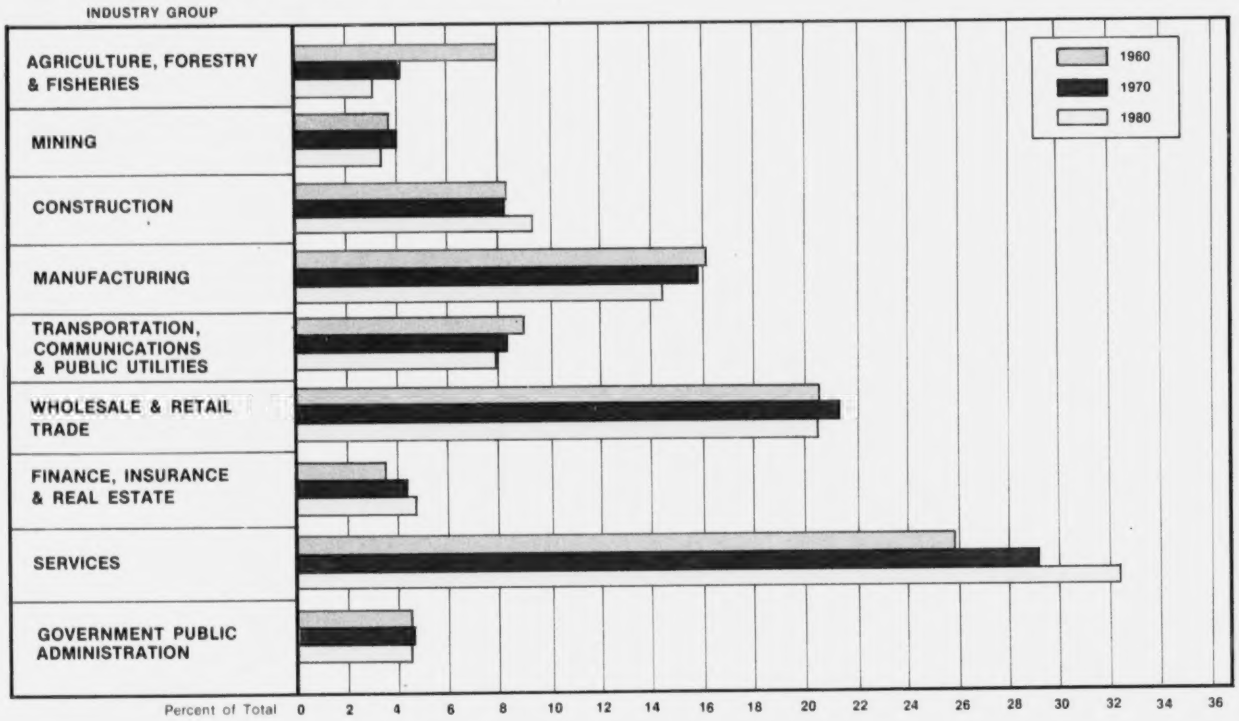
Table 36. Louisiana Employment, By Major Industry, 1960, 1970 and Projections for 1980

Industry	Emp. 16 & Over 1960 Actual[a]	Emp. 16 & Over 1970 Actual	Adjusted 1980 Projection	Percent Change		Percent Distribution of Employment			Annual Average Percent Change in Employment		
				1960-1970	1970-1980	1960	1970	1980	La. 1960-1970	La. 1970-1980	U. S. 1970-1980
Agriculture, Forestry and Fisheries	80,164	47,999	41,932	-40.1	-12.6	8.0	4.1	3.0	-4.01	-1.26	-1.25
Mining	35,589	46,584	46,674	23.9	0.2	3.8	4.0	3.4	2.39	0.02	-1.21
Construction	83,664	96,609	128,587	15.5	33.1	8.4	8.3	9.3	1.55	3.31	3.35
Manufacturing	161,999	184,024	200,452	13.6	8.9	16.2	15.9	14.4	1.36	0.89	1.24
Durable	57,975	84,470	92,853	45.7	9.9	---	---	---	---	---	---
Nondurable	104,024	99,554	107,599	-4.3	8.1	---	---	---	---	---	---
Transportation, Communications and Public Utilities	90,520	95,757	109,930	5.8	14.8	9.0	8.3	7.9	0.58	1.48	0.79
Trade	204,653	245,661	283,588	20.0	15.4	20.5	21.3	20.4	2.00	1.54	1.34
Wholesale	44,120	55,832	70,030	26.5	25.4	---	---	---	---	---	---
Retail	160,533	189,829	213,558	18.2	12.5	---	---	---	---	---	---
Finance, Insurance and Real Estate	37,343	51,250	65,260	37.2	27.3	3.7	4.4	4.7	3.72	2.73	1.41
Services	259,343	336,841	449,876	29.9	33.6	25.9	29.1	32.4	2.99	3.36	4.19
Private Household	68,785	41,875	38,012	-39.1	-9.2	---	---	---	---	---	---
Hospital and Health	38,510	60,801	87,745	57.9	44.3	---	---	---	---	---	---
Education	64,436	101,791	143,846	58.0	41.3	---	---	---	---	---	---
All Other Services	87,612	132,374	180,273	51.1	36.2	---	---	---	---	---	---
Public Administration	45,129	53,520	62,288	18.6	16.4	4.5	4.6	4.5	1.86	1.64	2.76
Total Employed	1,000,454	1,158,245	1,388,587	15.8	19.9				1.58	1.99	2.09

[a] 1960 employment adjusted to 16 and over basis and "industry not reported" prorated by industry.

SOURCE: See Appendix for Methodology.

Figure 6. Major Industry Divisions as a Percent of Louisiana Employment, 1960, 1970 and Projections for 1980



needs related to the primary vocation are also met. For this reason, the census basis for projecting training needs appears to offer a better base than annual average employment data for determining educational program priorities.

Agriculture is an important sector of Louisiana's economy. However, in 1960, only 8 percent of the state's population was employed primarily in this industry; this percentage slipped rapidly to 4.1 in 1970 and is projected to decrease to 3 in 1980. This decline means that Louisiana will have fewer farmers and farm workers in 1980 than it had in 1970. The effects of technology and farm consolidation which have caused the precipitous drop in agricultural employment will eventually reach a plateau. The projection in this report assumes that this decline will begin to bottom out during the 1970's. A 12.6 percent reduction between 1970 and 1980 is projected in comparison with the 40.1 percent reduction experienced between 1960 and 1970.

Stable employment in the forestry and fisheries segments of this industry category are expected for the period.

MINING

Louisiana's relative employment in mining has been more than four times the national average. Nearly all of this employment is found in the crude petroleum and natural gas segment of this industry group. Although offshore drilling may provide some increases, the lack of new inland oil finds and the depletion of existing resources is projected to result in stabilized employment in mining through the 1970's and a decreasing proportion of total state employment.

CONTRACT CONSTRUCTION

Growth in contract construction was quite erratic during the 1960's in Louisiana. Construction employment rose steeply between 1963 and 1966 and remained at a high level until labor-management problems, high interest rates and the national recession brought a sharp decline after 1968. The 15.5 percent increase in construction employment between 1960 and 1970 is deceptive since the increase was nearly 60 percent between 1963 and 1966. The experience in construction employment until the 1968 decline indicates a potential for growth in this industry during the 1970's if factors hampering this development can be corrected.

The growth in construction employment is projected at approximately the national average; however, this assumes improvements in labor-management problems and in the national economy. The New Orleans domed stadium, currently under construction, plans for two nuclear power plants and several major plant expansions, plus a continuing demand for residential construction are expected to provide a substantial base during the 1970's. Potential construction boosts could be supplied by the development of a proposed Gulf of Mexico superport or major highway construction currently under discussion.

MANUFACTURING

During the 1970's, Louisiana's manufacturing employment is expected to grow at a rate of about two thirds of the national average. The projected 8.9 percent growth for this period is lower than the actual 13.6 percent growth during the 1960's. During the 1960's, manufacturing of durable goods increased 45.7 percent while the larger segment, nondurables, actually decreased slightly. The growth in durables was due almost wholly to increases in fabricated metals, which included ordnance (military hardware), and in shipbuilding. During 1970 and 1971, two factors that contributed to the national recession—cutbacks in defense spending and winding down of the space programs—hit Louisiana especially hard. Ordnance manufacturers were among the hardest hit, and about 2,000 ordnance workers were left jobless in New Orleans alone. These projections assume a peacetime economy and hence the factors which contributed most heavily to the manufacturing upswing in the 1960's cannot be expected to assist development in the 1970's.

One of the state's major durable goods industries, lumber and wood products, will continue its level of output due to present forest management practices. Employment, however, will continue to decline, largely due to improved technology. The only major bright spot in the durables sector is the boat and shipbuilding industry which has grown rapidly and is expected to continue to expand in the 1970's.

Many of the nondurable manufacturing industries which were declining in employment during the 1960's are expected to continue to decline slightly or stabilize in the 1970's. Among these are three major segments: foods, paper products and petroleum refining. Although not measurable at this time in terms of employment, the increasing probability of a Louisiana superport and the expected growth in national demands for oil imports may require greater refining capacity before 1980 than has been reflected in the projection made in this report. The industries expected to contribute to overall expansion of the nondurable sector are: (1) apparel and textile products and (2) chemical and allied products.

Louisiana began the 1970's with the proportion of its employment in manufacturing far below the national average, and it is expected to end the 1970's in a relatively worse position.

TRANSPORTATION, COMMUNICATIONS AND PUBLIC UTILITIES

The slowest growth of all the major industry groups during the 1960's was in transportation, communications and public utilities, with only a 5.8 percent increase for the period. Between 1970 and 1980, moderate increases in communications and public utilities are expected. In the transportation sector, expansion in trucking, water transportation and transportation services should cause the industry group to grow faster than the national average. Railroad transportation is the only major segment of this category which will decline in employment.

WHOLESALE AND RETAIL TRADE

Next to services, the trade industry provides the largest source of employment in Louisiana. During the 1960's, trade employment expanded more rapidly than the state's average total industry growth, resulting in 245,661 persons employed in 1970. Wholesale trade, which makes up about a fourth of the total, grew faster than retail trade. All major segments of retail trade have been expanding, and this expansion is projected to continue at nearly the same rate through the 1970's.

Retail trade is expected to continue to grow only moderately, at a rate well below the state's average industry growth, with major gains being made in general merchandising, food and dairy stores, and eating and drinking places. The percent increase in combined trade employment during the 1970's is, however, expected to be slightly higher than the national average.

FINANCE, INSURANCE AND REAL ESTATE

In 1960, finance, insurance and real estate was the smallest of the major industry groups in Louisiana. During the 1960's employment in this industry increased 37.2 percent—the most rapid growth of all the major industry groups. By 1970, the number employed in this industry had surpassed both agriculture and mining. This industry is expected to provide an even larger proportion of the state's employment by 1980 even though nationwide the proportion is declining.

Employment in finance, insurance and real estate should increase by 27.3 percent by 1980. This rate of growth is slower than that recorded for the 1960's, but it is still well above the average state industry growth rate.

SERVICES

The service division, which is the largest industry division in Louisiana, has also been the major supplier of new jobs through expansion. Employment in services industries grew 29.9 percent between 1960 and 1970 and is expected to grow another 33.6 percent by 1980. In 1980, almost one third of all employment in Louisiana (nearly 450,000 jobs) will be in the services industries. The most significant gains are expected in health services, educational services and miscellaneous business services. Although employment in services will be the most rapid growth segment of the state's economy, the rate of growth will be only three quarters of the national rate. Because expansion in services is related closely to population growth, Louisiana's slower than average population growth accounts for much of this difference.

Employment in the health and education services increased about 58 percent from 1960 to 1970. The projected increases for the 1970's are 44.3 and 41.3 percent respectively. The decreases reflect the slowdown in the rate of population growth and the consequent leveling off of school enrollments.

Employment in private households declined by 39.1 percent during the 1960's. This is the only services area which is projected to decline in the 1970's. Louisiana has historically had a much higher proportion of its employment in private households than the national average. It is projected that the state's private household employment will continue to drop until it approximates the national ratio.

PUBLIC ADMINISTRATION

The "public administration" category is composed of government workers engaged in activities unique to government. Those workers engaged in activities also conducted by private enterprises, such as construction and manufacturing, are classified in their appropriate industry. During the 1960's, employment in public administration grew 18.6 percent, slightly faster than the state's total industry average. Between 1970 and 1980, employment in public administration is expected to grow more slowly than the state's total employment but at only about 60 percent of the national growth rate.

SHIFTS IN OCCUPATIONAL EMPLOYMENT

The shift in industry structure, along with changes in technology, will be accompanied by changes in the occupational makeup of the Louisiana labor force during the 1970's. The following factors seem to be primarily responsible for these changes: (1) expanding technology continues to increase production output per worker and to cause a greater demand for more highly trained workers; (2) the demands for more diversified goods and services, as reflected in the state's changing patterns of industrial development, are enlarging; and (3) the demand for specialized services is increasing faster than the demand for diversified goods. Each of these factors contributes to the shifts in the worker classification distribution.

The following comments provide a brief explanation of the expected trends within each of the 10 major occupational groups. Tables 37 and 38 supplement this commentary.

PROFESSIONAL, TECHNICAL AND KINDRED WORKERS

Professional, technical and kindred workers will be the fastest growing occupational group in Louisiana. During the 1970-1980 period, employment in this group is projected to increase 31.3 percent. The proportion of total state employment in this group will rise from 13.9 to 15.5 percent during this period. In 1970 this occupational group was the fourth largest in the state; by 1980 it will be second only to the clerical worker group. This shift in the percentage distribution of professional, technical and kindred workers is directly related to technological advances which will require more highly skilled workers and to what might be termed a "professionalization" of the services industries. The percentage growth in the demand for professional, technical and kindred workers in the services industries is increasing, while the percentage growth in the demand for semiskilled and nonskilled workers in the services industries is declining. Current economic trends clearly indicate the growing need for well

Table 37. Louisiana Employment By Major Occupational Groups, 1970 and Projections for 1980

Occupations	Employment		Percent Change 1970-1980	Percent Distribution			
	1970	1980		La. 1970	U. S. 1970	La. 1980	U. S. 1980
Professional, Technical and Kindred	161,025	211,456	31.3	13.9	14.2	15.5	16.3
Managers and Administrators (except farm)	104,128	119,747	15.0	9.0	10.5	8.8	10.0
Sales Workers	73,328	95,247	21.6	6.8	6.2	7.0	6.1
Clerical and Kindred	180,406	234,214	29.8	15.6	17.4	17.1	18.2
Craftsmen, Foremen and Kindred	167,860	202,417	20.6	14.5	12.9	14.8	12.9
Operatives	180,777	203,374	12.5	15.7	17.7	14.9	16.2
Laborers	70,286	67,545	-3.9	6.1	4.7	4.9	3.9
Farm and Farm Workers	37,144	30,867	-16.9	3.2	4.0	2.2	2.7
Services (except private household)	134,054	159,730	19.2	11.6	10.4	11.7	11.6
Private Household	44,237	42,291	-4.4	3.8	2.0	3.1	2.1
TOTAL	1,158,245	1,366,888	18.0	100.0	100.0	100.0	100.0

SOURCE: See Appendix for Methodology.

Table 38. Demand for Expansion and Replacement By Occupational Category in Louisiana, 1970-1980

Occupations	Employment 1970	Projected Rate of Increase	Employment 1980	Expansion Needs	Replacement Needs	Total Demand for Workers	Percent Distribution of Total Demand
Professional, Technical and Kindred	161,025	---	211,456	---	---	102,880	17.4%
Engineers	14,529	27.2	18,481	3,952	2,146	6,098	---
Physicians & Practitioners	7,900	34.7	10,641	2,741	2,318	5,059	---

Health Workers	16,473	43.2	23,589	7,116	9,415	16,531	---
Teachers, Elementary & Secondary	45,589	-1.9	44,723	-866	18,062	17,196	---
Technicians (except health)	14,042	40.0	19,659	5,617	1,685	7,302	---
Other Professionals	62,492	[illegible].0	94,363	31,871	18,823	50,694	---
Managers and Administrators (except farm)	104,128	15.0	119,747	15,619	32,462	48,081	8.1
Sales Workers	78,328	21.6	95,247	16,919	26,904	43,823	7.4
Clerical and Kindred	180,406	---	234,214	---	---	137,214	23.3
Bookkeepers	19,043	15.2	21,938	2,895	8,196	11,091	---
Secretaries, Stenographers, Typists	45,579	32.7	60,483	14,904	27,046	41,950	---
Other Clerical	115,784	31.1	151,793	36,009	48,164	84,173	---
Craftsmen, Foremen and Kindred	167,860	---	202,417	---	---	69,929	11.9
Auto Mechanics & Repair	13,818	27.5	17,618	3,800	2,043	5,843	---
Other Repair & Mechanics	23,410	23.5	28,911	5,501	4,186	9,687	---
Machinists	4,003	16.0	4,643	640	865	1,505	---
Metal Craftsmen	6,667	19.1	7,940	1,273	1,388	2,661	---
Carpenters	16,452	27.9	21,042	4,590	4,312	8,902	---
Construction Crafts	37,674	32.3	49,843	12,169	8,752	20,921	---
Other Crafts	65,836	10.0	72,420	6,584	13,826	20,410	---
Operatives	180,777	12.5	203,374	22,597	36,494	59,091	10.0
Laborers (except farm & mine)	70,286	-3.9	67,545	-2,741	13,094	10,353	1.8
Farmers & Farm Workers	37,144	-16.9	30,867	-6,277	6,461	184	0
Service Workers (except private household)	134,054	---	159,730	---	---	96,254	16.3
Cleaning Services	30,250	35.7	41,049	10,799	15,686	26,485	---
Food Services	40,120	22.2	49,027	8,907	16,938	25,845	---
Health Services	18,280	69.7	31,021	12,741	11,339	24,080	---
Personal Services	18,072	16.7	21,090	3,018	10,182	13,200	---
Protective Services	15,149	15.8	17,543	2,394	4,250	6,644	---
Private Household Workers	44,237	-4.4	42,291	-1,946	24,228	22,282	3.8
TOTAL	1,158,245		1,366,888	220,826	369,265	590,091	100.0%

SOURCE: See Appendix for Methodology.

trained workers not only in Louisiana but in the nation as a whole.

During the 1960's, a great demand for technical engineers resulted from the high level of federal defense and space spending. With the decline in federal contracts in Louisiana, a slower rate of growth is expected. Between 1970 and 1980, technical engineering employment should increase by 27.2 percent, slightly lower than the 31.3 percent overall expansion projected for the professional and technical group as a whole.

Medical and health worker employment will grow substantially during the 1970's. The rate of growth for professional nurses, medical and dental technicians, and other health workers will be greater than that of medical practitioners. Continued population growth, greater availability of health insurance, expansion of hospitals and clinics, and federal medical aid programs are among reasons for continued employment growth in this occcupational group.

Although increased employment in the teaching profession is expected generally, a slight decrease in the number of teachers in elementary and secondary schools is expected during the 1970's. Teacher shortages will become a problem of the past.

Technicians, excluding medical and dental discussed above, will experience rapid growth. The 40 percent increase in employment by 1980 will include a great number of occupations for which persons may be trained through less than baccalaureate degree programs.

The other professional, technical and kindred workers category (the largest of this occupational group) is composed of a variety of professional workers, i.e., accountants and auditors; airplane pilots and navigators; clergymen; lawyers; librarians; teachers and workers in arts and entertainment; and professional, technical and kindred workers not elsewhere classified. Included in this group are professional data systems workers, such as programmers and analysts. The "other" category is expected to increase 51 percent between 1970 and 1980. Subbaccalaureate training will be appropriate for many of the occupations included in this classification.

MANAGERS, OFFICIALS AND PROPRIETORS

The managers, officials and proprietors group (largely composed of full-time professional managers) is expected to show slow growth. The relative proportion of managers, officials and proprietors should be lower in 1980 than it was in 1970 for two reasons: (1) some of the duties normally assigned to managers are gradually being assumed by clerical workers, and (2) the increase in the number of professional workers has begun to lessen the need for direct supervision.

CLERICAL AND KINDRED WORKERS

During the 1970-1980 period, the clerical and kindred workers occupational group is expected to take the lead in the percentage distribution of occupations in Louisiana. An increase of 29.8 percent during this period will make this group the largest source of employment in the state. Only moderate growth is expected in the bookkeeper sector of this group; however, secretaries, stenographers and typists, and the other clerical and kindred workers category will increase nearly one third during the period.

The largest (60.5 percent) of the percentage gains in the clerical and kindred workers occupations are expected in the office machine operators category, which includes computer and auxiliary data processing machine operators. Technological advances will cause a slight decrease in the growth rates of several clerical and kindred workers occupations, but these declines will probably be somewhat offset by the expanded utilization of clerical workers in data systems facilities throughout the state. The shifts in training demands within the clerical group will require careful planning within the educational system to prepare office personnel to meet current needs.

SALES WORKERS

The number of sales workers is expected to increase in the 1970's by 21.6 percent, which is a higher rate of growth than this category experienced during the 1960's, but is still only slightly above expected average occupational growth for the state. The moderate increase is determined by the lackluster expectation for retail trade growth, although some expansion will be contributed by an increase in the sales of securities, insurance and real estate. Self-service, general merchandise stores and self-service retail establishments should have a lesser effect on reducing the number of sales workers than they did during the 1960's. At the same time, the number of wholesale and industrial sales workers should increase.

CRAFTSMEN, FOREMEN AND KINDRED WORKERS

Employment changes in the craftsmen, foremen and kindred workers group closely parallel changes in construction and manufacturing, since a large share of these workers are employed in these two industries. Combined employment in construction and manufacturing should increase by approximately 17.2 percent between 1970 and 1980, while employment in the craftsmen, foremen and kindred workers group should advance approximately 20.6 percent in the same period. The growth for this occupational group is only slightly above the average growth for all occupations.

Construction carftsmen and carpenters indicate the highest percentage growth during the 1970-1980 period.

The number of motor vehicle and other repairmen and mechanics will increase substantially during the 1970's. Machinists and metal craftsmen will increase more slowly, due in large part to the projected moderate increases in durable-goods manufacturing.

OPERATIVES AND KINDRED WORKERS

Generally speaking, the operatives occupational group is composed of semiskilled workers, and its employment gains follow the trends in the manufacturing industries. This group is expected to grow very slowly during the 1970's (12.5 percent), due to the low projected growth in manufacturing during this period (8.9 percent). In 1970, operatives comprised the largest occupational group in the state with 15.7 percent of the total employment. By 1980, it is expected to fall to fourth place with 14.9 percent of the employment.

Several occupations in the operatives group are expected to grow more rapidly than the average. As a result of the projected increases in textile manufacturing, the number of semiskilled textile workers will increase by more than 40 percent during the 1970's. Welders, drivers and delivery men will have substantial growth during this period.

LABORERS (EXCEPT FARM OR MINE)

The number of laborers in Louisiana decreased about 20 percent during the 1960's. From 1970 to 1980 the decrease is expected to continue but at a slower rate. The proportion of Louisiana employment in the laborer group has been greater than that for the nation, but by 1980 the difference will be nearly eliminated. By 1980, only 4.9 percent of the jobs in the state will be in the laborer category.

The disappearance of the laborer occupations has significant implications for the educational system. The opportunities for the "common laborer," that is, persons without vocational training or skills, are becoming fewer each year.

FARMERS AND FARM WORKERS

The number of employed farmers and farm workers decreased by nearly 40 percent between 1960 and 1970. This downward trend is expected to slow during the 1970's with the percentage decrease for the decade projected at 16.9. The number of farmers and farm workers is expected to further decline by 6,277 between 1970 and 1980.

SERVICE WORKERS (EXCEPT PRIVATE HOUSEHOLD)

The category of service workers other than private household workers will constitute the same proportion of the state employment in 1980 that it did in 1970. In spite of a tremendous increase during the 1960's (about 40 percent), the services category is expected to rise at about the average for all state employment (19.2 percent) during the 1970's. This slowing in the rate of growth can be attributed in part to the fact that the occupational structure of the services industries is shifting toward a higher concentration of professional, technical and kindred workers. However, the aforementioned shift does not fully account for the projected decline in the growth rate of services occupations. The number of services occupation workers does continue to grow for the following reasons: a rising population level, expanding business activities, increasing leisure time and increasing disposable personal income.

By far the fastest growing services sector in the 1970's will be health services with a projected 69.7 percent increase for the decade. "Health services" includes practical nurses, attendants and the lower skill level health workers.

"Cleaning services" is expected to increase by 35.7 percent. Food services, personal services and protective services, on the other hand, are projected for modest increases between 1970 and 1980.

PRIVATE HOUSEHOLD WORKERS

The number of private household workers in Louisiana is definitely declining and is projected to decrease by 4.4 percent between 1970 and 1980. The demand for these workers created by working housewives is being reduced by the availability of labor saving home appliances and child care centers. This group comprised 3.8 percent of Louisiana employment in 1970, but this percentage is expected to fall to 3.1 by 1980.

The private household occupations are filled almost entirely by untrained, low-skilled women. In the same way the shrinking laborer category is eliminating opportunities for untrained men, opportunities for untrained women are becoming increasingly scarce.

MANPOWER REQUIREMENTS

The number of new jobs created by the expanding economy is termed the "expansion demand." However, an account of new jobs does not fully explain the dynamic progress of an economy. Jobs created by deaths and retirements cause continuous changes within the labor force. Vacancies created by deaths and retirements are termed replacement demands. Total demand for workers during a given period is the sum of expansion and replacement demands.

In Louisiana, replacement demand should equal 62.6 percent of the total manpower demand during the 1970-1980 period. Table 38 presents the estimated expansion, replacement and total demand for the state from 1970 to 1980 by occupational category. Since only the *General Social and Economic Characteristics for Louisiana* were available from the 1970 U. S. Census of Population at the time projections were made, occupational detail was limited to the categories included therein. Expansion of the occupational detail will be possible through use of census data on detailed characteristics which recently became available.

MATCHING VOCATIONAL TRAINING TO MANPOWER REQUIREMENTS

Once projections of the annual demand for workers by occupational categories are established, the next task is to relate these to vocational-technical training offerings in Louisiana. Louisiana's lack of information makes such a comparison difficult. An even more difficult task, given the existing inadequate information system, is that of comparing annual worker demand to the total number of job-ready workers entering the labor force in a given year, by occupation, from the various educational institutions. Louisiana's present follow-up data ignores the early leaver entirely and is generally ineffective, both in determining an accurate picture of post training placement and for use in analyzing training programs.

Table 39 is an attempt to relate the number of vocational-technical training enrollments, by occupational area, in the secondary schools, vocational-technical schools, apprenticeship programs, and colleges and universities. (See also Tables 2 and 3.) Excluded from Table 39 are several programs which do not relate directly to entry level training. These are nonoccupational home economics at the secondary level and supervisory and remedial programs in the vocational-technical schools. Table 39 also indicates an estimation of the number of persons trained and entering the labor force, by occupation and by institution, during 1971.

Due to the lack of adequate data and the inconsistency of data for each type of institution, the methods for estimating the number of job-ready individuals differ for each type of educational institution as follows:

Secondary Schools: The number of persons reported by the Department of Education as available for placement by training program were reclassified into the census occupation categories. Program enrollments far exceed the job-ready due to the large number of enrollees continuing their education either in high school or at another level prior to entering the labor force. Those reported as early leavers with marketable skills, a small number, were not included due to the lack of a standard definition of "marketable skills" and the lack of follow-up data to show whether or not they entered the labor force.

Vocational-Technical Schools: Programs in vocational-technical schools range from a few weeks to several years; therefore, enrollment figures by occupational group were adjusted to a yearly basis, i.e., enrollments in programs averaging 2 years were halved to estimate the number of job-ready during a year. The 1-year base enrollment figures were then adjusted by 70 percent, the average rate of placement from vocational-technical school programs in jobs in the same or related fields as determined from PAR's follow-up study discussed on pages 97-100.

Apprenticeships: The number of apprenticeship completions as reported for 1971 by the Louisiana State Apprenticeship Council was used.

Colleges and Universities: Vocational-technical programs in the colleges and universities normally run 2 years. By taking half of the enrollment figures, a rough estimate of the job-ready was made.

Table 39. Louisiana Projected Worker Demand, Persons Trained, and

Occupational Category	Projected 1970-80 Annual Job Openings	Total Job Ready 1971	Job Ready as Percent of Job Openings	Persons Trained and	
				Secondary Schools	Voc.-Tech. Schools
Professional, Technical & Kindred	10,288	1,438	14.0	—	—
Engineers	610	—	—	—	—
Physicians and Practitioners	506	—	—	—	—
Health Workers	1,653	190	—	—	—
Teachers, Elementary & Secondary	1,720	—	—	—	—
Technicians (except health)	730	477	—	4	356
Other Professionals	5,069	771	—	18	624
Managers and Administrators (except farm)	4,808	—	—	—	—
Sales Workers	4,382	1,538	35.1	889	634
Clerical and Kindred	13,721	12,818	93.4	—	—
Bookkeepers	1,109	2,105	—	1,161	944
Secretaries, Stenographers & Typists	4,195	5,797	—	2,849	2,598
Other Clerical	8,417	4,916	—	2,776	2,138
Craftsmen, Foremen and Kindred	6,993	3,865	55.3	—	—
Auto Mechanic and Repair	584	1,183	—	615	563
Other Repair and Mechanic	969	1,619	—	28	1,571
Machinists	151	263	—	—	218
Metal Craftsmen	266	3	—	—	—
Carpenters	890	149	—	42	86
Construction Crafts	2,092	559	—	25	121
Other Crafts	2,041	89	—	—	89
Operatives	5,909	3,784	64.0	136	3,476
Laborers (except farm and mine)	1,035	—	—	—	—
Farmers and Farm Workers	18	934	5,188.9	918	16
Service Workers (except private household)	9,625	2,896	30.1	—	—
Cleaning Services	2,649	36	—	—	36
Food Services	2,585	290	—	153	128
Health Services	2,408	1,722	—	22	1,700
Personal Services	1,320	644	—	116	528
Protective Services	644	204	—	—	137
Private Household Workers	2,228	—	—	—	—
TOTAL	**59,009**	**27,273**	**46.2**	**9,752**	**15,963**

SOURCE: PAR questionnaires to Louisiana vocational-technical schools and colleges and universities; the Louisiana State

Vocational-Technical Training Enrollments, By Occupational Group

Entering Labor Force 1971		Vocational-Technical Training Program Enrollments By Institution 1971				
Apprenticeship	Colleges & Universities	Total Enrollments	Secondary Schools	Voc.-Tech. Schools	Apprenticeships	Colleges & Universities
—	—	3,671	—	—	—	—
—	—	—	—	—	—	—
—	—	—	—	—	—	—
—	190	389	—	—	8	381
—	—	—	—	—	—	—
9	108	1,266	14	1,017	18	217
3	126	2,016	173	1,336	54	453
—	—	—	—	—	—	—
—	15	4,527	3,592	906	—	29
—	—	63,379	—	—	—	—
—	—	9,997	7,975	2,022	—	—
—	350	32,170	25,902	5,567	—	701
—	2	21,212	18,150	3,054	5	3
—	—	14,414	—	—	—	—
5	—	5,696	3,856	1,609	231	—
20	—	3,765	206	3,366	193	—
45	—	757	—	624	133	—
3	—	11	—	—	11	—
21	—	1,107	287	184	636	—
412	1	2,759	348	347	2,062	2
—	—	319	63	254	2	—
172	—	6,602	843	4,965	793	1
—	—	—	—	—	—	—
—	—	12,172	12,126	46	—	—
—	—	4,857	—	—	—	—
—	—	52	—	52	—	—
—	9	922	606	275	23	18
—	—	2,506	78	2,428	—	—
—	—	1,046	292	754	—	—
—	67	331	—	196	—	135
—	—	—	—	—	—	—
690	868	109,622	74,511	29,002	4,169	1,940

Department of Education; and the Louisiana State Apprenticeship Council. See Appendix for Methodology.

COMPARING WORKER DEMAND TO TRAINING OUTPUT

The total projected annual demand for workers between 1970 and 1980 is 59,009. Included in this number are many jobs which require baccalaureate training and some which require no training. The proportion requiring baccalaureate training is difficult to determine, although the major share of this demand is expected in the two major groups—(1) professional, technical and kindred workers and (2) managers and administrators—which comprise less than a quarter of the total state employment. A large share of the technical and managerial positions require only subbaccalaureate training. Some jobs requiring college degrees are also to be found in the sales workers group.

It has been estimated that nationwide only 20 percent of the jobs during the 1970's will require 4-year college degrees, and this appears to be true also in Louisiana. Twenty percent of the projected annual demand would give an estimated 11,800 jobs per year requiring a 4-year or advanced degree. During 1968-69 in Louisiana, more than 19,000 baccalaureate and advanced degrees were awarded. If the projections are accurate and if higher education continues its present rate of output, several implications are clear. The difference between college output and job openings requiring degrees will result in underemployment of many college graduates, forced migration, and competition for vocational and technical jobs for which they have not had adequate training.

As noted, jobs requiring no vocational or technical training are growing more scarce and are found largely in the laborer and private household sectors.

Of the total estimated job openings in 1970, approximately 75 percent required or could have used some level of subbaccalaureate vocational or technical training. The combined vocational-technical training output of the four trainee sources described earlier was only 46.2 percent of the total job openings. This leaves nearly 30 percent of the new job openings to be filled by underemployed college graduates, persons who will require on-the-job training by the employer, and graduates from private occupational schools. If approximately half of this 30 percent is filled by underemployed college graduates, the statistical residual is a small 15 percent of the job openings for which workers would have to obtain the necessary training from sources other than the public vocational training system. Two major problems, however, make this picture less rosy. First, many of the students who are going on for college degrees would likely profit more from adequate vocational-technical training which would prepare them for their ultimate employment. Vocational and technical occupations may be more rewarding in terms of salaries and satisfaction than many of the professional occupations, and the training period is considerably shorter. Second, the present vocational-technical training output is not balanced with the occupational demands.

A realistic approach to meeting manpower requirements would be to encourage a portion of the college bound to accept vocational-technical training and to provide training geared to expected job openings.

The following comments relate present training output to job demand by major occupational category.

Professional, Technical and Kindred Workers

Vocational-technical training output from the four trainee sources shown in Table 39 represents about 14 percent of the professional and technical job demand. This training is all directed toward the subcategories of health workers (mostly professional nurses), technicians except health (largely electronics technicians), and other professionals, technical and kindred workers (various paraprofessionals). All of the health worker output indicated in Table 39 was from the colleges and universities, while the technicians and paraprofessionals were trained by the colleges and the vocational-technical schools. Data on health workers trained by hospitals was not included.

The proportion of this major category which could be trained at the subbaccalaureate level is difficult to determine, particularly without the aid of the 1970 detailed census characteristics. This is an important area for study in planning future vocational-technical program offerings, since there is movement in a number of areas (e.g., health and medical) to develop paraprofessional jobs to free professionals from certain aspects of their work which do not require full application of their skills and knowledge.

Although no attempt is made here to estimate the degree to which 2-year paraprofessional and technical programs are currently underused in the present educational system, there is obviously a great deal of room for expansion, considering the projected manpower requirements.

Managers and Administrators (Except Farm)

None of the vocational-technical training programs are classified as falling in the managers and administrators occupation category. These occupations are normally filled by persons with professional training or by persons who have advanced through other occupational areas. Occupations within this category which could be served by 2-year or associate degree programs should be explored. Opportunities in this sector are becoming increasingly scarce for those lacking a college degree.

Sales Workers

Although some of the sales occupations would appear to require college degrees—those dealing in some aspects of finance and insurance or in technical areas of manufacturing or wholesale selling—the bulk of sales workers are found in retail sales and could profit from specialized vocational training programs. As compared with the projected annual demand for 4,382 sales workers, the output from related vocational training programs was only 1,538 in 1971 or 35.1 percent of the worker demand.

Clerical and Kindred Workers

Vocational training for the clerical and kindred occupations appears to be very closely related to needs, with training output equaling 93.4 percent of the total demand. Within the category, though, there appears to be an oversupply of bookkeepers by nearly 100 percent, and of secretaries, stenographers and typists while the other clerical occupations are being undersupplied. This imbalance is not terribly significant in that there is a great deal of mobility between these categories. Problems may arise, however, in certain of the other clerical occupations where knowledge of specialized systems or machine operations are required.

Although only 93.4 percent of the demand is supplied by the sources noted in the table, the clerical category serves as a retreat for many of the underemployed college graduates. Also, private vocational schools are geared almost solely to the clerical field. The total effect may be an oversupply.

Craftsmen, Foremen and Kindred Workers

Nearly all of the occupations included in the craftsmen, foremen and kindred workers category require specific vocational training, yet the 1971 training output comprised only 55.3 percent of the total annual demand. With an estimated 6,993 job openings, only 3,865 trained individuals entered the labor force. Even within the number trained, there appear to be severe imbalances. Motor vehicle mechanics and repairmen were oversupplied by about 100 percent. Auto mechanics is a popular program in the secondary schools as evidenced by the large enrollments; however, many of those leaving to seek employment with only these skills will likely end up in other occupational categories such as service station attendants, drivers or deliverymen.

Another category which appears to be in oversupply is that of other repairmen and mechanics which includes appliance repair. Nearly all of this training is provided in the vocational-technical schools. The output exceeds the demand by more than 50 percent. The machinists group, although a small one, is also apparently being oversupplied.

The remainder of the occupations in this major category, including metal craftsmen, carpenters, construction crafts and other crafts have a projected total annual demand for 5,289 new employees. The training systems provided 800 in 1971, or 15 percent of the demand. The heavy reliance upon apprenticeship training and the requirement of union membership in most of these occupations tends to artificially restrict the available supply. As the craft occupations appear to offer growing opportunities for employment in Louisiana, vocational education planners should examine alternative means for increasing the supply of trained workers in these areas.

Operatives

A total annual demand for 5,909 operatives was met by 3,784 trainees in 1971, or 64 percent. The operatives group includes the semiskilled occupations, one quarter of whom are drivers or deliverymen. Other major groups in this category are assemblers, machine tenders and operators, welders and flame cutters, and semiskilled textile workers. The large bulk of training for operatives is given in the vocational-technical schools, with welding and instrument technology comprising most of the training programs. If one can assume that the driver segment of the operatives category requires little vocational training, then it would follow that training is coming close to meeting demand in the aggregate. The driver and other operatives occupations should be analyzed to see where additional training programs, both public and private, might be instituted. The very slow rate of growth in the operatives category will not require a great expansion of training programs in the future for this category. However, expected industrial expansion in the apparel and textile area will require some flexibility in the operatives training programs. The vocational training system should be prepared to provide specialized training at the right time and place to encourage new industrial development.

Farmers and Farm Workers

As discussed above, the census or primary occupation concept has been used in determining the demand for farmers and farm workers during the 1970's. The statistical projection allows for an annual increase of 18 new farmers and farm workers each year. According to this projection, if all of the agriculture teachers in the Louisiana secondary school systems were to quit teaching and attempt to make their primary occupation in farm production, approximately one third of them would still be out of work by 1980. Yet, in 1971, high school farm production courses enrolled 12,172 students. The total number of trained entrants into the labor force in 1971 was 934, which is equivalent to 5,189 percent of the projected demand.

The agricultural training fraternity entrenched at all levels of education in the state no longer justifies its existence on the basis of farm production manpower needs, but upon the demands of what is termed "agri-business." In a research study prepared in 1967 by one of the universities at a cost of about $100,000, in Louisiana 2,430 nonfarm agricultural businesses were identified which employed 51,719 persons—20,025 of whom had agricultural competencies. The job titles identified included entomologist, party leader, biologist, draftsman, computer technician, loan officer, fire ant supervisor, merchant, all of the clerical occupations, auto mechanic, laborer and janitor.

The great majority of these jobs appeared to require a minimal knowledge of agricultural production per se. A furniture salesman does not require training in furniture design and upholstering—the same logic should be brought to bear upon the planning for agricultural training programs. Certain jobs in agri-business may require institutional training in agricultural subjects. It is, however, doubtful that programs designed to prepare persons for farm production would be relevant to the needs of these persons. An impartial evaluation of the agricultural program offerings should be made with an eye toward establishing priorities which favor training for the primary occupations which will be available in the economy.

Service Workers (Except Private Household)

The service worker category represents an annual demand projected at 9,625 new workers while those trained and job-ready in 1971 numbered 2,896, or 30.1 percent of the demand. Training for health and personal services workers more closely approaches the demand than for any of the other services categories. Yet, even in these groups there appears to be room for considerable training expansion.

In the cleaning services category, practically no training is given although there is a demand for 2,649 workers. Many of the positions in this group are rather low-skilled. However, techniques and equipment for adequate building maintenance are becoming more sophisticated, thus providing a need for some training. In spite of the massive programs in nonoccupational home economics, very few people are presently being trained in quantity foods preparation nor for food services occupations generally. Training for protective services, which includes policemen, guards and firemen among others, is supplying only about a third of the demand.

A much greater effort on the part of the training system is required to adjust to the demand for trained services workers in all of the major subgroups.

Laborers (Except Farm and Mine) and Private Household Workers

Laborers and private household workers are considered together since they represent the major available opportunities for the untrained and unskilled. Combined, these groups offer a potential of 3,263 new jobs annually in the state. A look at the number of school dropouts from the first through the ninth grades during 1971 shows a total of 9,144 persons who might be presumed not to have acquired sufficient training for any but the more menial occupations. It might further be presumed that a large proportion of the additional 9,797 dropouts from the 10th through 12th grades in 1971 acquired only minimal occupational training.

Opportunities in the laborer and private household occupations are decreasing rapidly, and the pool of untrained persons in the labor force is unlikely to be absorbed. Opportunities for these persons to reenter vocational training programs must be provided.

RECONCILIATION OF RESIDENTS EMPLOYED WITH OCCUPATIONAL PROJECTIONS

In an earlier section, a projection was made of the number of Louisiana residents who will be employed in 1980. This estimate was based on population projections made independently of the industry and occupation projections. These projections, presented in previous tables, are as follows:

1980 Resident Employed	1,483,585
1980 Industry Total	1,388,587
1980 Occupational Total	1,366,888

The disparity between the industry and occupational projection totals is relatively insignificant (21,699) and results from the fact that these projections were derived by different methods.

There is, however, a significant difference of 116,697 between the projected number of resident employed and the total of the occupational projections. If this difference can be legitimately rationalized, educational planners will only need to worry about providing training to meet the projected manpower requirements reflected in the occupational total. If this difference cannot be rationalized, the state is faced with two major alternatives: either industry must be encouraged to expand at a more rapid rate than the projections indicate or the persons who make up that difference must be prepared to migrate to jobs existing outside the state. Under either of these alternatives, the educational system must provide relevant occupational training for those persons.

The difference might be accounted for by assuming that the occupational total is understated to the extent the census base was undercounted and that the resident employed was overstated due to the assumptions of peacetime conditions and a near full-employment economy in 1980 which were used in deriving that figure. The following reconciliation assumes a 5 percent census undercount in 1970 (there is precedent for this assumption), armed forces as the same proportion of the labor force as in 1970, and a 5½ percent unemployment rate. (Many economists now feel that a 3 percent national unemployment rate could not be achieved even in a full employment economy):

1980 Resident Employed	1,483,585
Occupational Total	-1,368,888
Difference	116,697
Adjustment for census error	-68,344
Adjustment for armed forces	-25,758
Adjustment for unemployment	-31,158
Unreconciled	8,563

Although most of the difference might be logically reconciled, it would be a serious error to accept for planning purposes a continuation of the present rates of unemployment and military service. Also, census methods may have improved since 1960. The only adequate target figure for educational planning is that of the resident employed. Occupational projections should be used as trend indicators to balance training program priorities.

If the difference above is not reconciled, it will represent an unemployment rate of 7½ percent of the 1980 Louisiana labor force.

FOOTNOTES

[1] U. S. Bureau of Labor Statistics, *Tomorrow's Manpower Needs*, Bulletin 1606 (Washington, D. C.: 1969), 4.

[2] For discussion of discrepancies among the three 1980 projections presented in this section, see page 158 and the Appendix for Methodology.

Comments and Recommendations

This study revealed numerous voids and deficiencies in Louisiana's vocational-technical programs. One of the major weaknesses is that Louisiana has failed to develop a philosophy for vocational-technical education, much less the broader concept of career education.

Most of PAR's recommendations to correct present weaknesses and deficiencies do not require legislation. Rather, they will necessitate leadership and imagination by the State Board and Department of Education. More money will doubtless be needed to implement a plan once it is formulated and approved, but in many instances, present institutions, faculty and equipment can and should be converted to new uses.

CRITERIA FOR AN EFFECTIVE PROGRAM

Criteria to measure the effectiveness of vocational-technical education programs must be formulated to assess Louisiana's existing programs and its needs. Based on current literature and experiences in other states, as well as on observations of Louisiana's programs, the following criteria emerge.

PLANNING AND COORDINATION

The various phases of career and vocational education must be linked together because a void in a total program can make a critical

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difference to individuals. If there is a lack of exposure to a wide range of occupations, a student's talents and interests can remain undiscovered. Lack of skill training can cause his potential to remain undeveloped. To meet educational needs of today and tomorrow, an educational program must be coordinated so that the student can progress steadily along a path of discovery and development, allowing him to pursue his interests but never forcing premature decisions. If a mistake is made in career selection, the educational system must allow one to reenter it for retraining.

Planning should be based on projections of manpower needs, or students will likely be trained for jobs that do not exist or are fast disappearing while critical manpower needs are unmet. There is also danger that needs will be based on narrow, local training requirements which can have short-range relevance in a society where new jobs are emerging and worker mobility is high. The labor market that students will enter is at the same time local, state, regional and national.

The planning process must also involve continuous evaluation of existing programs, for the major objective of career education is to equip all persons for a career. Studies to follow up on careers of students to determine the impact of educational programs are of utmost importance as are attitudinal surveys of administrators, instructors, counselors, employers and employees.

COMPREHENSIVENESS

A quality program means a comprehensive program which must reach people with vastly different intellectual and economic capacities. All phases of career development must receive proper attention—from career motivation, to orientation, to exploration, to skill training, to job placement, and also to upgrading and retraining.

AVAILABILITY

A fundamental requisite of vocational-technical education is that it be available to those who want and need it. Availability also entails adequate facilities to accommodate a student body sizable enough to permit a wide range of programs.

Vocational-technical educational programs should be offered within commuting distance of as many people as possible. Costs to students should be minimal and transportation should be provided where feasible.

QUALITY INSTRUCTION

Without quality instruction, vocational-technical education can be not only ineffective, but it can even have a negative value. Well designed curricula, capable instructors and proper instructional equipment and materials are fundamental to a quality program.

Colleges and universities must develop teacher education programs that are relevant to present and future needs.

COMMUNITY INVOLVEMENT

Business, industry and labor must be involved with professional educators in any successful program of vocational-technical education, for they can provide critical insights into curriculum design, equipment needs and program planning on which relevant vocational education depends. They are needed to provide work experience for youths in school; to discuss career potentials, requirements and experiences; and to assist in job placement.

EFFICIENCY

Limited resources must be used efficiently. Costs of various programs must be established and standards set through development of cost data. Constant reevaluation of the relative value of alternative programs is necessary. A management information system is essential to facilitate knowledgeable and wise decisions.

EXPERTISE

Educators must have considerable expertise in vocational-technical education and an understanding of the concept of career education in order to develop an effective program which meets the needs of individuals and keeps pace with new demands and technological changes. Educators also need expertise in order to choose wisely among many rapidly developing and contradictory approaches.

COMMITMENT

Commitment is the most vital element of a state's vocational-technical education program; without it, other elements cannot be achieved. Moreover, commitment—both philosophical and financial—must be made by the public, business and industry, labor, governmental officials, administrators and instructors if any educational program is to succeed.

WEAKNESSES OF PRESENT PROGRAMS

There are many weaknesses in Louisiana's present vocational-technical programs, including the following:

1. Despite improvements in the present plan for vocational-technical education over prior ones, many of the objectives are still vague. The plan fails to include all vocational-technical programs and institutions in the state and in many instances lacks precise data for defining problems and measuring progress toward solving them. As a result, the plan fails to give specific and realistic direction for the future.

2. High schools have the largest enrollment in vocational programs. However, they provide little vocational training since most students are in programs geared to nonwage earning such as home economics and agriculture, as well as industrial arts which tends to emphasize hobbies rather than an exposure to job training.

3. Most vocational-technical training for jobs in Louisiana is provided through the state's 33 vocational-technical schools. However, the establishment of these schools has been unplanned. They lack money for operations, equipment and facilities, thus hampering their ability to serve all students who wish job training. Hence, they are not "open door" as intended. Moreover, some schools tend to "cream off" the better students through entrance requirements, leaving persons who may be most in need of training with few if any alternatives.

4. The vocational-technical schools operate rather independently, with no uniform standards or policies regarding such areas as curriculum, student charges and admissions, resulting in extreme differences among schools.

There is no clearcut statement of goals for the vocational-technical schools, and in fact, it is unclear whether the State Board of Education or the state superintendent of education has supervisory authority over them. Neither has exercised such authority nor provided leadership for the vocational-technical schools.

5. Labor market needs and projected manpower trends are not adequately identified, making it impossible to correlate training with availability of jobs.

PAR's projections of Louisiana's manpower needs to 1980 indicate that job opportunities for the untrained and unskilled are becoming increasingly scarce while demand is increasing in many fields requiring vocational-technical training below the baccalaureate level. Louisiana is training far more persons than will be needed in many fields while failing to train persons in many critical areas.

6. There is a lack of methods and information to evaluate the effectiveness and cost of existing vocational education programs. Development of a management information system is a critical need.

7. Little effort is made to follow up on students—those who drop out of school, those who complete courses, and their successes or failures at the vocational-technical schools or at *any* level of education.

8. Guidance and counseling are essential to assist students in choosing careers and finding employment, but such personnel are inadequate at the elementary-secondary levels and almost nonexistent at the vocational-technical schools.

9. School personnel, employers and the public are generally not kept apprised of what is happening in vocational-technical education. Everyone in the state (professional education personnel, parents, the lay public, employers and labor) needs to be informed about vocational-technical education needs, programs and plans for new directions and opportunities, yet hardly any one knows what programs exist, where they are located, what they are doing, and what they plan to do.

10. Those concerned with vocational-technical education programs rarely contact business and industry for help in designing curricula, placing students in jobs or learning of their needs.

Drastic changes will be needed in Louisiana's educational system to shift the emphasis from a college-oriented program for a few to a "career" oriented education for all. This new focus will require the understanding and cooperation of many, but the leadership and impetus in converting traditional concepts into new directions will fall directly upon Louisiana's State Board and Department of Education.

Correction of present weaknesses and deficiencies in Louisiana's vocational-technical education program should be given top priority if Louisiana is to meet the needs of its citizens and move ahead economically.

CAREER EDUCATION

The present education system—kindergarten through postsecondary education—should be revised to incorporate career education.

Career education is a complex concept. Essentially, it envisions that all persons will be exposed to various occupations so that they can choose a career wisely instead of through chance, and that they will acquire the necessary knowledge and skills so that they can earn a living and lead a productive and useful life—not only as a worker but also as an individual and a citizen. While career education places new emphasis on training for jobs and appreciating the value of work, it should complement and not replace other essentials of education that are not and should not be career-oriented, such as basic education and liberal arts. Emphasis on basic education should, of course, be continued and strengthened, and subjects which help persons enjoy a better life should be available. However, the concept of career education does envision that the education process will be made more relevant and interesting for students than present methods which may be abstract and are geared either for the college bound or toward general education. By making education more relevant and interesting, career education should hold more students in school and offer them the flexibility to pursue a career which does not require a college education if they wish to do so.

Education should be so structured to prepare persons to earn a living at whatever stage they leave school, even if it is before high school graduation, and to equip them with the background and incentive to continue their learning and self-improvement at some future time.

Career education is new in terminology, emphasis, application and objective, although it does borrow from older concepts and experiences, some of which are embodied in vocational-technical education. Because career education is so new, Louisiana, along with other states, must develop its own models for ultimate implementation on a statewide basis. Various projects are already underway by some local systems, the State Department of Education and LSU.

STATE ADMINISTRATION

Louisiana's present organizational structure for vocational-technical education has serious faults. No one individual or agency plans and supervises the state's entire program. Courses offered by local public schools receive little planning, supervision and assistance from the state level. The state board has exclusive domain over the universities and colleges under its control, yet it lacks a staff to assist it, and the state department has practically no staff involved with higher education institutions. Hence, collegiate programs receive no supervision at all from the state department but, rather, are administered by the individual institutions. State financial support for collegiate programs is not funneled through the state department. The LSU system is completely independent of the State Board of Education; LSU does have considerable staff to provide data for management decisions by the LSU Board of Supervisors.

Even the vocational-technical schools are operated rather independently. There is a general understanding that the board has authority over these schools, while the state superintendent has no administrative authority, other than to advise and assist. Such an arrangementhas created a vacuum in which neither has exerted supervisory authority; the board would be handicapped if it chose to do so since it lacks a staff.

There are virtually no controls or regulations over manpower training, apprenticeship programs and private vocational-technical schools by the State Board and Department of Education, although licensing of private schools was initiated by a 1972 act.

While there is a State Advisory Council on Vocational and Technical Education, as required by federal law, there are no other state-level advisory councils to provide expert knowledge concerning curriculum, equipment, facilities, employment needs, job placement and public information.

There is no administrative structure on the regional level to act as an intermediary between localities and the state.

There is a general research division within the State Department of Education whose primary responsibility has been to prepare an annual report and school directory, and also a special research coordinating unit within the Bureau of Vocational Education whose primary concern is to contract research to other parties and organizations. However, little research is done by staff of the department.

All these factors make it evident that the state's vocational-technical program lacks any semblance of having requisites to provide leadership, coordination and planning needed for a cohesive state system.

The same basic problems which plague other areas of education also plague vocational-technical and career education.

There are divisions of responsibility where there should be none and no divisions of responsibility where such divisions are absolutely necessary. Because vocational education should be involved in all levels of education, providing a remedy for problems in this field demands solutions to some of the basic administrative problems of all education.

ROLE OF STATE BOARD AND STATE DEPARTMENT OF EDUCATION

The State Board of Education and the state superintendent should assume leadership in providing a comprehensive, expanded and quality vocational-technical educational program throughout the state. They should also provide leadership in converting Louisiana's educational system into one encompassing the career development concept embracing kindergarten through postsecondary education.

Boards to administer education programs at the state level should not be fragmented, nor should one area or level of education be separated from others. The state should consider moving to a single board to plan and coordinate the entire educational system of the state. Such an arrangement will be particularly important under the career education concept in which education is to be a continuous process from one level to another.

A single planning and coordinating board for all of education does not mean that there would not be local governing boards for elementary-secondary schools, nor governing boards for institutions of higher education.

Louisiana is rather fortunate in that all of public education, except for the Louisiana State University system, is under the authority of a single board—the State Board of Education. Hence, except for LSU, authority for a coordinated public educational system already exists.

The two boards to administer institutions of higher education created problems in the past and to resolve these, a Coordinating Council for Higher Education was created in 1968. However, the council recommended in its master plan that it be abolished and that a single board for higher education be created. This would eliminate the LSU Board of Supervisors and remove institutions of higher education from control of the State Board of Education.

The council's recommendation was adopted through enactment of Act 712 of 1972 which creates a single governing board for higher education—the Louisiana Board of Regents. The board is to consist initially of 37 members: the nine members of the Louisiana Coordinating Council for Higher Education, the 14 members of the LSU Board of Supervisors, the 11 members of the State Board of Education—all of whom are to serve until their terms expire; and in addition, three members of the "predominant minority race" appointed for 8-year terms. The ultimate board is to consist of 16 members—eight elected and eight appointed by the governor with Senate consent, with an elected and an appointed member from each of the congressional districts; all members are to serve 8-year terms. A transition plan for consolidation is to be prepared not later than June 1, 1974, and hence, the time schedule is such that this issue can be reconsidered by the constitutional convention which convened January 5, 1973 and is to terminate its work by January 4, 1974.

There should be a division of authority between the State Board of Education and the state superintendent of education, with the board being responsible for policymaking and the superintendent for departmental administration.

The superintendent of education should be appointed by the State Board of Education. Proposals were presented during the 1972 legislative session to make the superintendent an appointive position, but they failed. Until such time as the position of state superintendent is made appointive, the State Board of Education should give the state superintendent specific authority to supervise and administer all institutions over which it has responsibility.

Presently there are two competing heads of public education in the state—an elected superintendent and an elected board—causing considerable confusion as to who is responsible for making educational policy. The split in authority between the superintendent and the board seriously hinders the development of a well planned and coordinated educational program. Where there is a division of responsibility, it is based more on tradition than on sound administrative principles. Both the superintendent and the board make administrative and policy decisions; both handle operational details.

Lack of coordination has created vacuums in educational leadership. The State Board of Education, which traditionally has had authority over higher education, has had to depend upon the superintendent to provide a staff for this area of education. The staff that has been provided is extremely limited in number and in duties. Vocational-technical education has not received the attention it deserves. There is little coordination among the various levels of education.

Because the board lacks an adequate staff, it must rely on a separately elected superintendent to provide it with sufficient information to make policy and administrative decisions. This arrangement limits the effectiveness of the board in carrying out its responsibilities. In an effort to overcome this weakness, the State Board of Education established a special committee in September 1972 to formulate plans for a staff for the board. Such a step would be unnecessary if the superintendent were appointed by the board since the entire staff of the department would be available to the board.

The division of responsibilities into board policymaking and departmental administration would end present confusion. If Louisiana is to have an effective, coordinated and well managed state system of career and vocational-technical education, the state superintendent must have clear administrative authority to implement policies.

At present, State Board of Education policies are buried within minutes of the board. A search of board minutes should be made to determine and extract the policies, and once the policies have been compiled, they should be reviewed to assure that they are consistent and reflect views of the board. They should then be codified, and appropriate manuals should be prepared for the board itself, administrators within the department, school officials and other interested persons.

REORGANIZATION OF STATE DEPARTMENT OF EDUCATION

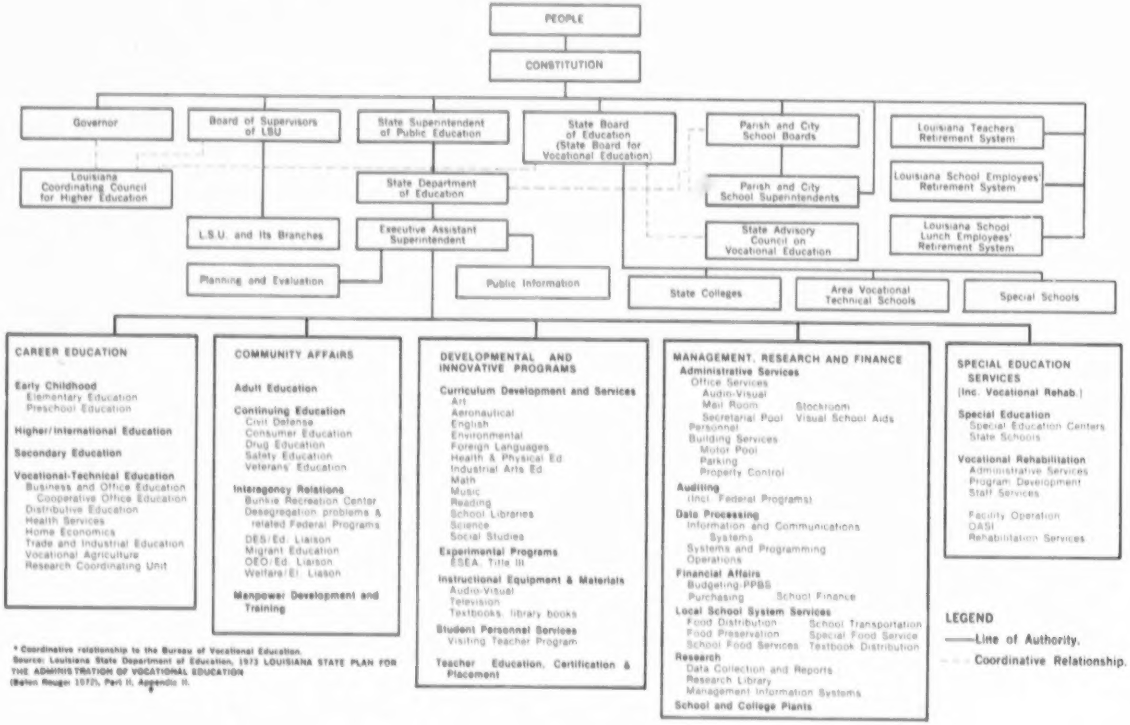
The State Department of Education should be reorganized to provide more effective control and coordination. (See Figures 7 and 8 for the present organization of the Department of Education and Figure 9 for a proposed reorganization.)

The new state Superintendent of Education has reorganized the department, which is an improvement over the previously fragmented structure. The new organization may prove successful for an interim period in focusing on problem areas, but it seems likely that it will create conflicts of authority if continued on a permanent basis. PAR's recommended reorganization is intended to be a permanent one.

The Superintendent of Education should have an executive assistant who should be aided by a community affairs officer and a public information officer.

The community affairs officer should act as a liaison with state and local agencies concerning community problems as they relate to education, and the public information officer should provide the general public with information about the state's educational program.

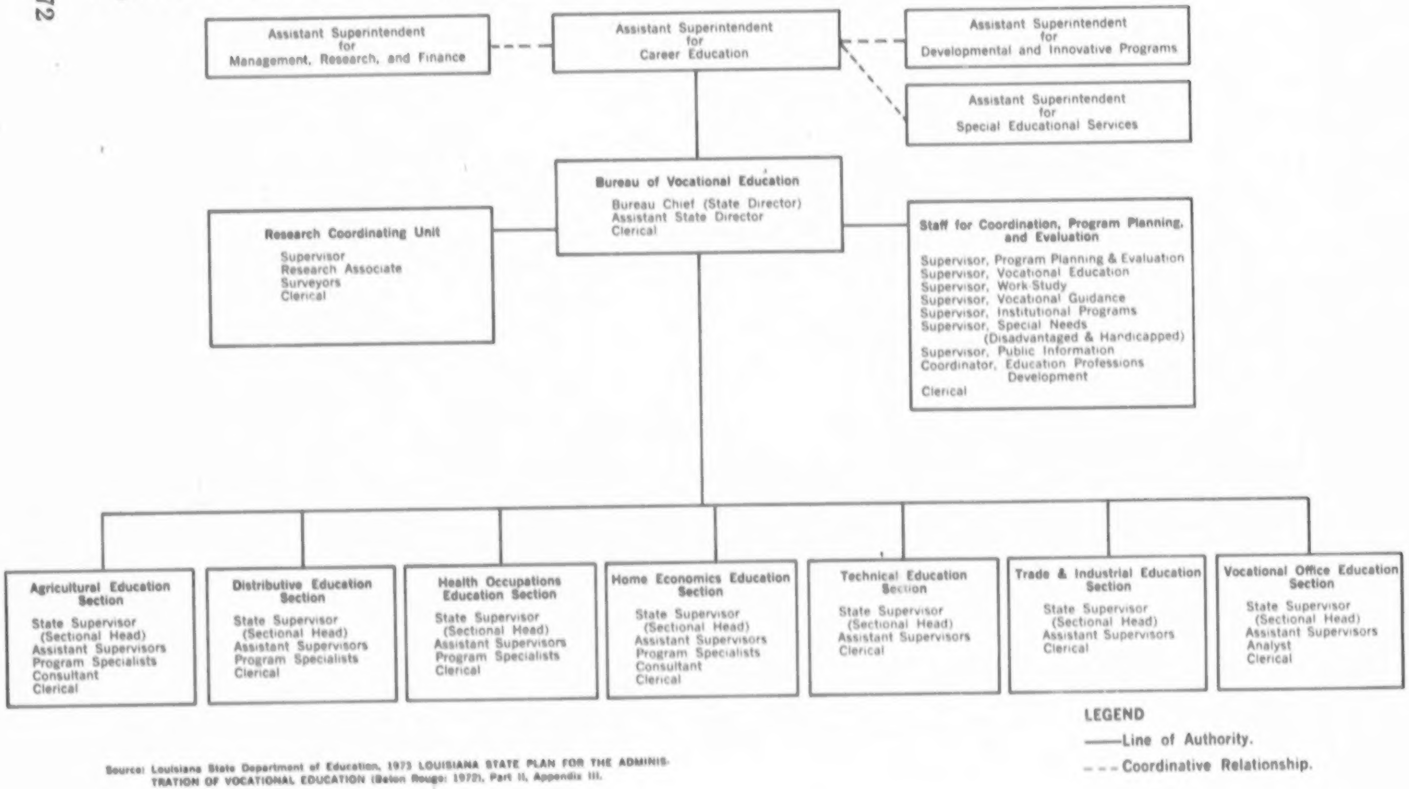
Figure 7. Present Organizational Structure of Louisiana's Educational System


PEOPLE
CONSTITUTION
Governor
Louisiana Coordinating Council for Higher Education
Board of Supervisors of LSU
L.S.U. and Its Branches
State Superintendent of Public Education
State Department of Education
Executive Assistant Superintendent
Planning and Evaluation
Public Information
State Board of Education (State Board for Vocational Education)
Parish and City School Boards
Parish and City School Superintendents
State Advisory Council on Vocational Education
Louisiana Teachers Retirement System
Louisiana School Employees' Retirement System
Louisiana School Lunch Employees' Retirement System
State Colleges
Area Vocational Technical Schools
Special Schools
CAREER EDUCATION
Early Childhood
Elementary Education
Preschool Education
Higher/International Education
Secondary Education
Vocational-Technical Education
Business and Office Education
Cooperative Office Education
Distributive Education
Health Services
Home Economics
Trade and Industrial Education
Vocational Agriculture
Research Coordinating Unit
COMMUNITY AFFAIRS
Adult Education
Continuing Education
Civil Defense
Consumer Education
Drug Education
Safety Education
Veterans' Education
Interagency Relations
Bunkie Recreation Center
Desegregation problems & related Federal Programs
DES/Ed. Liaison
Migrant Education
OEO/Ed. Liaison
Welfare/Ed. Liason
Manpower Development and Training
DEVELOPMENTAL AND INNOVATIVE PROGRAMS
Curriculum Development and Services
Art
Aeronautical
English
Environmental
Foreign Languages
Health & Physical Ed
Industrial Arts Ed
Math
Music
Reading
School Libraries
Science
Social Studies
Experimental Programs
ESEA, Title III
Instructional Equipment & Materials
Audio-Visual
Television
Textbooks, library books
Student Personnel Services
Visiting Teacher Program
Teacher Education, Certification & Placement
MANAGEMENT, RESEARCH AND FINANCE
Administrative Services
Office Services
Audio-Visual
Mail Room
Stockroom
Secretarial Pool
Visual School Aids
Personnel
Building Services
Motor Pool
Parking
Property Control
Auditing
(Incl. Federal Programs)
Data Processing
Information and Communications Systems
Systems and Programming
Operations
Financial Affairs
Budgeting-PPBS
Purchasing
School Finance
Local School System Services
Food Distribution
School Transportation
Food Preservation
Special Food Service
School Food Services
Textbook Distribution
Research
Data Collection and Reports
Research Library
Management Information Systems
School and College Plants
SPECIAL EDUCATION SERVICES
(Inc. Vocational Rehab.)
Special Education
Special Education Centers
State Schools
Vocational Rehabilitation
Administrative Services
Program Development
Staff Services
Facility Operation
OASI
Rehabilitation Services
LEGEND
Line of Authority.
Coordinative Relationship.

* Coordinative relationship to the Bureau of Vocational Education.

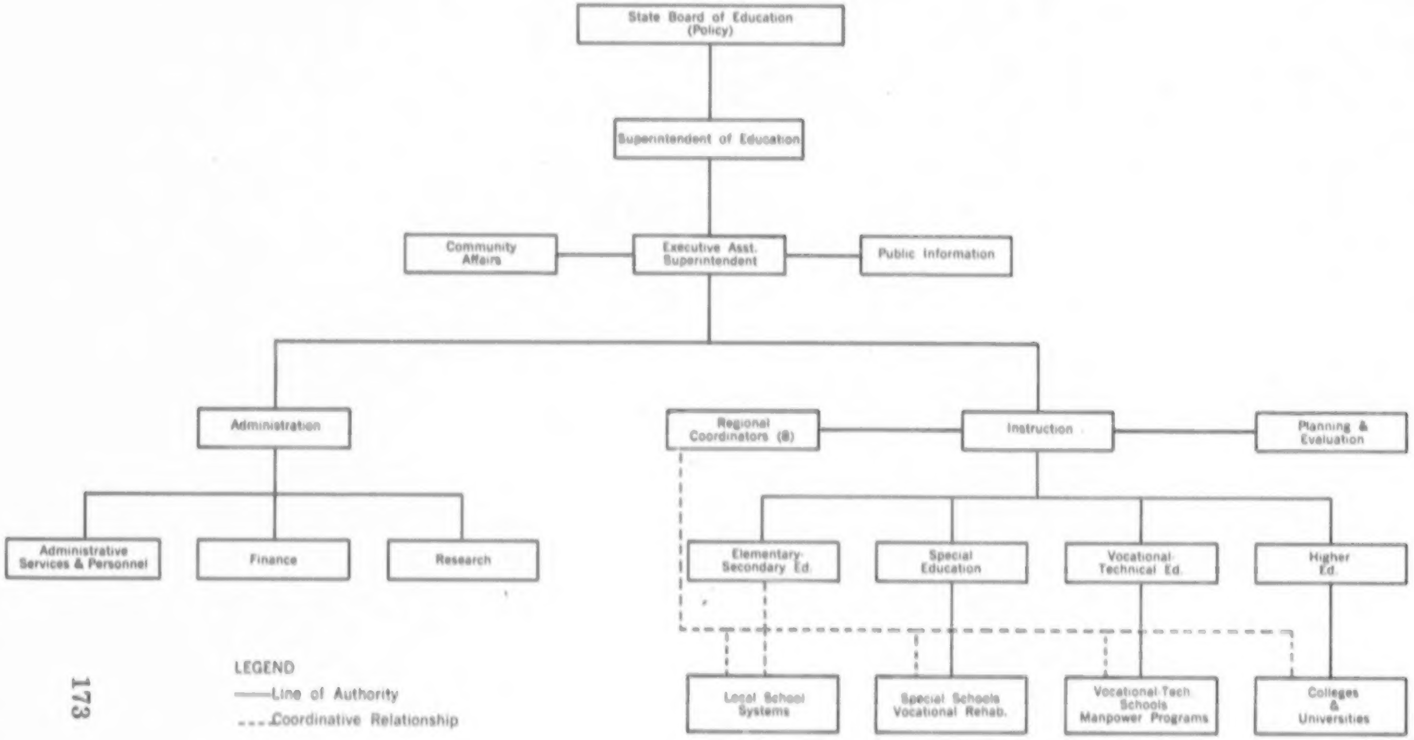
Source: Louisiana State Department of Education, 1973 LOUISIANA STATE PLAN FOR THE ADMINISTRATION OF VOCATIONAL EDUCATION (Baton Rouge: 1972), Part II, Appendix II.

Figure 8. Present Louisiana Organizational Structure for Vocational Education


Assistant Superintendent for Management, Research, and Finance
Assistant Superintendent for Career Education
Assistant Superintendent for Developmental and Innovative Programs
Assistant Superintendent for Special Educational Services
Research Coordinating Unit
Supervisor
Research Associate
Surveyors
Clerical
Bureau of Vocational Education
Bureau Chief (State Director)
Assistant State Director
Clerical
Staff for Coordination, Program Planning, and Evaluation
Supervisor, Program Planning & Evaluation
Supervisor, Vocational Education
Supervisor, Work Study
Supervisor, Vocational Guidance
Supervisor, Institutional Programs
Supervisor, Special Needs (Disadvantaged & Handicapped)
Supervisor, Public Information
Coordinator, Education Professions Development
Clerical
Agricultural Education Section
State Supervisor (Sectional Head)
Assistant Supervisors
Program Specialists
Consultant
Clerical
Distributive Education Section
State Supervisor (Sectional Head)
Assistant Supervisors
Program Specialists
Clerical
Health Occupations Education Section
State Supervisor (Sectional Head)
Assistant Supervisors
Program Specialists
Clerical
Home Economics Education Section
State Supervisor (Sectional Head)
Assistant Supervisors
Program Specialists
Consultant
Clerical
Technical Education Section
State Supervisor (Sectional Head)
Assistant Supervisors
Clerical
Trade & Industrial Education Section
State Supervisor (Sectional Head)
Assistant Supervisors
Clerical
Vocational Office Education Section
State Supervisor (Sectional Head)
Assistant Supervisors
Analyst
Clerical
LEGEND
——Line of Authority.
- - - Coordinative Relationship.

Source: Louisiana State Department of Education, 1973 LOUISIANA STATE PLAN FOR THE ADMINISTRATION OF VOCATIONAL EDUCATION (Baton Rouge: 1972), Part II, Appendix III.

Figure 9. Proposed Reorganization of Louisiana State Department of Education


State Board of Education (Policy)
Superintendent of Education
Community Affairs
Executive Asst. Superintendent
Public Information
Administration
Regional Coordinators (8)
Instruction
Planning & Evaluation
Administrative Services & Personnel
Finance
Research
Elementary-Secondary Ed.
Special Education
Vocational-Technical Ed.
Higher Ed.
Local School Systems
Special Schools Vocational Rehab.
Vocational-Tech. Schools Manpower Programs
Colleges & Universities
LEGEND
——Line of Authority
- - - Coordinative Relationship

The Department of Education should be divided into two major offices—an Office of Administration and an Office of Instruction, each headed by an assistant superintendent.

The Office of Administration should include housekeeping, personnel, finance and research services. This office should contain a management information system, utilizing modern data processing methods. All departmental research functions should be consolidated into a single, highly professional research unit.

The Office of Instruction should include two staff services and four instructional divisions. The two staff services should be (1) planning and evaluation and (2) regional coordination. These staff services should develop comprehensive educational program planning, evaluation and supervision. The four instructional divisions should consist of (1) elementary and secondary education, (2) vocational-technical education, (3) higher education and (4) special education.

The staff arm for planning and evaluation should implement, with the assistance of the research section of the administrative office, a planning and evaluation program for all public instruction. It should develop a state plan for education that is comprehensive, clear and concise, and specifies steps planned to achieve objectives. A director should be appointed to supervise the planning and evaluation staff.

A management information system, to be developed within the administrative office, should be thoroughly utilized to maintain control over instructional programs and evaluate their effectiveness.

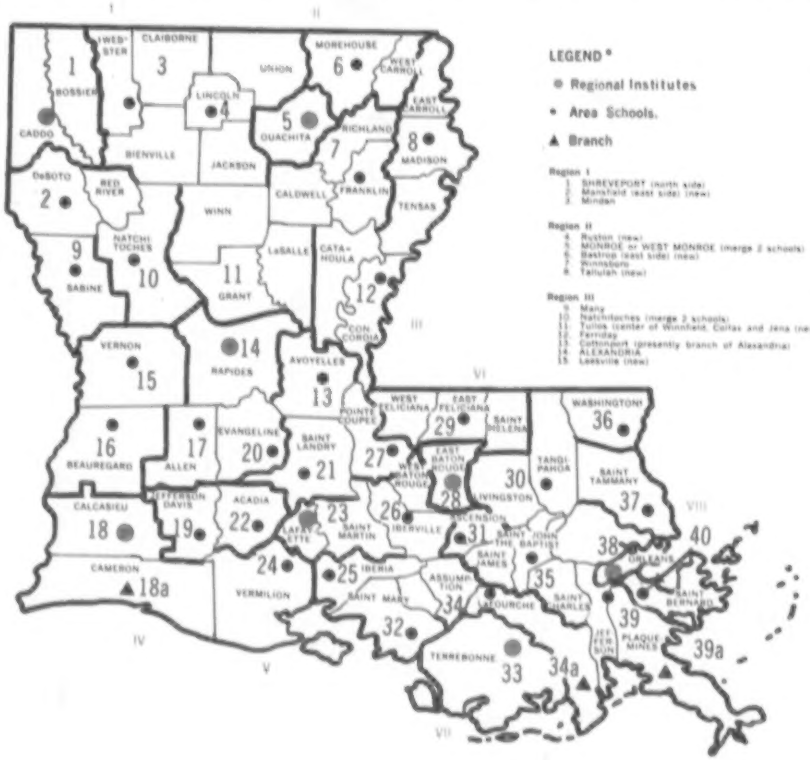
The staff arm for regional coordination should assure that the instructional programs to be administered by the four instructional divisions are coordinated.

The state should be divided into eight regions centering around the state's major urban centers. Suggested regions are shown in Figure 10. Each of these regions has a wide population and economic base on which to build a comprehensive educational program.

Each of the eight regions should have a regional coordinator appointed by the proposed assistant superintendent for instruction of the State Department of Education.

Each regional coordinator should work with educators and the public in his region to establish educational programs that meet the needs of the region. He should make certain that the activities of local institutions are consistent with policies established by the state planning and evaluation office and work to develop cooperation among

Figure 10. Proposed Louisiana Vocational-Technical Education Institute System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III
IV
V
VI
VII
VIII
CADDO
BOSSIER
WEB-STER
CLAIBORNE
UNION
MOREHOUSE
WEST CARROLL
EAST CARROLL
LINCOLN
OUACHITA
RICHLAND
MADISON
DeSOTO
RED RIVER
BIENVILLE
JACKSON
CALDWELL
FRANKLIN
TENSAS
WINN
NATCHI-TOCHES
SABINE
GRANT
LaSALLE
CATA-HOULA
CON-CORDIA
VERNON
RAPIDES
AVOYELLES
BEAUREGARD
ALLEN
EVANGELINE
SAINT LANDRY
POINTE COUPEE
WEST FELICIANA
EAST FELICIANA
SAINT HELENA
WASHINGTON
TANGI-PAHOA
SAINT TAMMANY
WEST BATON ROUGE
EAST BATON ROUGE
LIVINGSTON
CALCASIEU
JEFFERSON DAVIS
ACADIA
LAFAY-ETTE
SAINT MARTIN
IBERVILLE
ASCENSION
SAINT JOHN THE BAPTIST
SAINT JAMES
CAMERON
VERMILION
IBERIA
SAINT MARY
ASSUMP-TION
LAFOURCHE
SAINT CHARLES
ORLEANS
SAINT BERNARD
JEF-FER-SON
PLAQUE-MINES
TERREBONNE
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LEGEND*

● Regional Institutes

• Area Schools.

▲ Branch

Region I
1. SHREVEPORT (north side)
2. Mansfield (east side) (new)
3. Minden

Region II
4. Ruston (new)
5. MONROE or WEST MONROE (merge 2 schools)
6. Bastrop (east side) (new)
7. Winnsboro
8. Tallulah (new)

Region III
9. Many
10. Natchitoches (merge 2 schools)
11. Tullos (center of Winnfield, Colfax and Jena (new)
12. Ferriday
13. Cottonport (presently branch of Alexandria)
14. ALEXANDRIA
15. Leesville (new)

Region IV
16. DeRidder (south side) (new)
17. Oakdale (south side) (new)
18. LAKE CHARLES
18a Cameron (new) (branch)
19. Jennings

Region V
20. Ville Platte (new)
21. Opelousas (merge 2 schools)
22. Crowley
23. LAFAYETTE (new)
24. Abbeville
25. New Iberia

Region VI
26. Plaquemine
27. New Roads
28. BATON ROUGE (merge 2 schools)
29. Clinton (new)
30. Hammond
31. Burnside (new)

Region VII
32. Morgan City
33. HOUMA
34. Thibodaux (new)
34a Golden Meadow (new) (branch)
35. LaPlace (new)

Region VIII
36. Bogalusa
37. Slidell (presently branch of Sullivan)
38. NEW ORLEANS—Delgado (east bank) (merge 2 schools)
39. New Orleans (west bank)
39a Port Sulphur (new) (branch)
40. Chalmette (new)

* Regional vocational-technical institutes are capitalized

local administrators. He should report directly to the assistant superintendent for instruction.

The eight regional coordinators should meet regularly as a group with the state superintendent of education or his top assistant to exchange information, coordinate educational services among regions, and assist in statewide planning.

The function of the regional coordinators should be to assist staff of the State Department of Education as well as local agencies and institutions, in an advisory capacity, to evaluate, plan and coordinate education programs offered at various levels and by different types of institutions within a region. They should not serve as another administrative layer between the state and local agencies. Regional coordinators should not have authority to dictate programs of local school boards or other educational institutions. However, a knowledgeable person on the scene rather than at the state level should be able to determine if there are duplications, conflicts, gaps or needs for expansion of educational programs within a region of the state. A responsibility of the regional coordinators should be to find voids and solutions that may be unique to a particular region of the state.

If there are programs offered by different types of institutions within a region that are similar in nature, the regional coordinator should be able to determine such conflict and recommend that programs be assigned according to the appropriate nature of an institution. For example, if a high school, vocational-technical school and institution of higher education are all offering programs in air conditioning and refrigeration and the programs are essentially the same, the regional coordinator should spot such an overlap and might recommend that the high school train for the basic entry level, such as a helper; that the vocational-technical school train for jobs such as skilled repairmen; and that the college train for designing air conditioning systems.

By providing a staff that can really become familiar with local needs and problems, educational programs can be made more responsive to community needs, while at the same time assuring that the advantages of state administration can be maintained.

These geographic regions should be standardized to also serve the state in other capacities and should be used by other state agencies so that there will be uniformity in designation of regions for various purposes.

For example, the same regional areas should be used for gathering various statistical data, economic planning, administering welfare programs, and diagnosing persons for various needs and programs.

The four instructional divisions should administer educational programs. As detailed in the following section, each division should have authority over specific institutions with specific non-duplicative functions. Such administrative functions as curriculum design and certification of instructors should be performed by the instructional divisions.

A Division of Elementary-Secondary Education should be responsible for supervising the state's public school system. The functions of elementary-secondary education should be basic education, career motivation, career orientation and career exploration, including basic job-entry training. A director of elementary-secondary education should supervise this division.

A Division of Vocational-Technical Education should be responsible for the vocational-technical schools and all other programs, such as manpower training and apprenticeship, which provide training in the vocational and technical areas. A director of vocational-technical education should supervise this division.

A Division of Higher Education should be responsible for the colleges and universities which will be concerned with technical, paraprofessional and professional education, as well as other traditional academic collegiate programs. A director of higher education should supervise this division.

A Division of Special Education should administer the state's special schools and the vocational rehabilitation program. A director of special education should supervise this division. A study should be made of the relationship between the special schools and the vocational rehabilitation program as well as the relationship of these programs to the schools and programs for retarded and exceptional children, now under the Louisiana Health and Social and Rehabilitation Services Administration, to see if all programs involving special education should be consolidated within a single department.

Advisory Councils

A statewide system of advisory councils should be created.

The State Advisory Council for Vocational and Technical Education, created under federal regulations, should utilize more fully its potential by:

1. Concerning itself with meaningful evaluation of programs, policies and procedures.

2. Demanding a state plan that is understandable and specific in terms of goals that can and should be achieved.

3. Providing assistance in program planning, public information and job placement services.

4. Expanding its area of concern to include all of career education.

The council should be an active body of highly qualified persons who are able to devote the attention their role demands. The previous council acted in a largely perfunctory manner to process and generate reports required for Louisiana to be eligible to receive federal grants. Since the council includes members from labor and management, economic development agencies, educational institutions of all types, manpower programs and the general public, the council should be sufficiently broad in its background to expand its area of concern in the field of vocational-technical to also include career education. Although federal law requires that the council employ its own staff, a strong professional staff within the State Department of Education should assist the council in its endeavors.

Other statewide advisory councils should be appointed by the state superintendent of education for each major occupational area. These councils should number six to eight members and be composed equally of employees and employers. Responsibilities of these councils would include advising on content of curricula, course planning, qualifications of instructors, job placement, facilities and equipment, and public relations.

Regional coordinators, the director of planning and evaluation, the directors of the instructional divisions and institutional administrators should have authority to establish advisory groups, formal and informal, permanent and ad hoc, for whatever purposes they find necessary.

There should be no per diem payment to advisory council members, although payment of expenses should be allowed, particularly for members of advisory councils at the state level. Occupational advisory council members should include employees as well as employers in the occupation represented.

The use of advisory councils is one method of getting a large number of people interested and actively involved in vocational-technical education as well as drawing on their expertise. Advisory councils should also be useful in upgrading the stature of vocational-technical education in the public mind.

PROGRAM AND PLANNING TOOLS

If Louisiana is to have a comprehensive and effective program of career education, it must develop a meaningful plan and provide the requisite means of implementing it.

THE STATE PLAN

Louisiana should develop a state plan for career education that is comprehensive, clear and concise, and specifies steps planned to achieve objectives.

The State Board of Education should demand that a meaningful long-range plan be developed that is understandable and realistic, and is based on precise and accurate data. The plan should embrace all vocational-technical programs in the state and clearly state objectives in terms of students to be served, fields of training and dollars needed. Objectives should be easily understood and relevant, and stated in explicit terms that will permit measurement of progress. A popular version should be prepared and widely distributed.

This plan should be developed by the planning and evaluation unit under the director of instructional programs, as proposed previously.

The National Advisory Council on Vocational Education, in its fourth report, had stinging criticism of many state plans:

> At the heart of the process of allocating federal money for vocational-technical education is a document called the 'State Plan.' While its existence represents a significant advance over the unplanned character of most education, in many states it falls far short of presenting what the objectives of the state are, how the state proposes to achieve them, and how long it expects that to take. Rigidly structured by the federal rules and regulations, the plan serves as a compliance document with specifications so meticulously detailed that its annual preparation becomes a chore for the expert in grantmanship and its review in the Office of Education has literally been entrusted to secretaries.[1]

State advisory councils in some states have had equally harsh criticism of their respective state plans. In Kansas and Oregon, the plans were called "so lengthy, obtuse and filled with extraneous material that the usual professional educator, board member and citizen cannot or does not comprehend the Plan." The same could be said of Louisiana's plan although its state council has failed to voice such harsh criticism. However, Thomas S. Derveloy, Louisiana's former assistant superintendent for vocational education, in his report to a Congressional committee, did express reservation concerning Louisiana's plan:

> **The State Plan provisions presently require countless number of hours in time and effort for preparation with some provisions of the Plan ~~irrelevant to the State's~~ basic objectives and programs. It is felt that the time and effort spent in the preparation of the State Plan in many cases is not in direct proportion to the value received from the State Plan itself.**[2]

Louisiana's state plans have met federal requirements, but have fallen far short of being understandable and useful documents. They were essentially *unplanned* plans.

The 1973 state plan shows considerable improvement over prior plans in that it is easier to understand goals and methods of obtaining them. It incorporates the concept of career education as a goal, although details are yet to be developed. The new plan is only a step in the right direction. Much of the necessary detailed information is reported in the plan, but such data is not related to stated objectives. All vocational programs in the state, both public and private at all levels, are not included; rather, the plan continues to incorporate only those programs eligible for federal funds.

A primary objective that still appears to be lacking is how to make vocational-technical education available to all persons who need and desire such programs.

Planning and coordinating are extremely critical if the state is to have an effective program of vocational or career education. A program aimed at an 8-year old's need for exposure to the "world of work" as well as a 40-year old's need for supplemental job training requires meticulous planning and coordination, particularly when programs are offered in a variety of public and private institutions and skills of individuals must be balanced with business and industry's continually changing manpower needs.

DIVISION OF RESPONSIBILITIES

The state plan should pinpoint the respective role and scope of elementary schools, secondary schools, vocational-technical schools and institutions of higher education regarding career education. Private or proprietary schools offering vocational-technical training, industry programs, apprenticeship programs and federal manpower training programs should also be encompassed in the state master plan.

Criteria for the programs to be offered by each type and level of institution should be established.

A complete inventory of all existing programs and course offerings should be made so that programs that are unnecessarily repetitive or duplicative can be phased out, and also to assure that the appropriate level of institution is allocated proper programs.

The State Board of Education, with assistance from staff of the State Department of Education, should review and approve all vocational and technical programs in conformance with stipulated criteria within the approved plan, evaluate the urgency of need for new programs to assure that training programs are not instituted if jobs do not exist, determine the appropriate instructional level, and assess the available or required facilities.

Vocational-technical education, long the stepchild of education in Louisiana as well as other states, has now become so attractive that many wish to adopt it. The public schools, with a traditional responsibility for providing general and college preparatory training as well as orientation, exploration and prevocational training, have recently become involved in skill training. Some public school systems have expressed a desire to extend their job training programs into postsecondary areas by adding the 13th and 14th years beyond high school. The vocational-technical schools, whose traditional responsibility has been skill training for a broad spectrum of persons, are now becoming interested in offering paraprofessional and sophisticated technical programs. Colleges, traditionally geared to academic and professional programs, have begun technical and paraprofessional programs below the baccalaureate level, and some have expressed interest in vocational courses. With no guidelines nor control delineating respective responsibilities, conflicting and duplicative programs are emerging. This can only result in the entire vocational-technical program floundering in confusion and animosity, and educational institutions fighting over scarce funds. Political maneuvering and disregard of the capabilities of each level of institution, rather than logical planning, threaten to become the typical weapons in this battle. Other states have had similar problems, and some have begun to realize the need to resolve them by assigning responsibilities so that the expertise of each type of institution is encompassed within its established realm. The recommended surveillance of programs, services and activities of vocational-technical programs at high schools and vocational-technical schools and of subbaccalaureate programs at colleges and universities should make certain that a power struggle for money, students, equipment and facilities, which is emerging, is resolved.

RESEARCH

Research activities of the State Department of Education should be intensified and consolidated into a single unit with four major objectives:

1. Educational research.
2. Economic research.
3. Development of a management information system.
4. Development of a system to disseminate research findings.

Educational Research

The research unit should be staffed to conduct research in such areas as teaching methods, materials and curricula. It should also assist in providing information for the various divisions of the department. Annual reports similar to those prepared on elementary and secondary schools should be prepared on vocational-technical schools, institutions of higher education and special schools.

The research unit should also contract research with outside agencies and organizations, thereby utilizing federal funds available for such purposes. The research unit should either itself assess the value of the research completed, or contract with others for third party evaluations. Any organization found to produce research of inferior quality should be barred from future contracted projects.

Economic Research

The research staff should utilize labor and economic data and integrate these with departmental career training objectives.

A computer-operated data system is needed to relate employment projections for specific occupational jobs to present and anticipated training programs. There is also need for research in the areas of changing occupational skills, job analysis, and skill requirements to take into consideration new technical developments. The department has been forced to rely too heavily upon the State Department of Employment Security for interpretation of employment data in the past.

Management Information System

The research staff should assist in determining the types of information needed by the department for management decisions, and they should also assist in developing criteria and methods for using management information system data to examine educational programs.

Dissemination of Research

Louisiana should provide a system to disseminate research findings.

A myriad of research projects related to teaching methods, materials, curricula, information systems, follow-up programs and guidance has been conducted throughout the country, and numerous projects are presently underway. Some methods have been found to be superior to others in current use but for some reason, these tested and validated research and development programs are not generally known nor implemented.

The United States Office of Education, since 1967, has promoted and developed the ERIC (Educational Resources Information Center) system which is designed to make educational research known and readily available. Information is collected and processed through 20 national clearinghouses and made available on microfiche and other media.

Ohio State University and North Carolina State University have been designated as national research centers for occupational education and have produced numerous studies and models.

Louisiana's Research Coordinating Unit has already acquired considerable educational research material which is maintained in a central microfiche file. However, the dissemination of this research has been limited; a circular letter with limited distribution has been initiated.

In Oklahoma and Tennessee microfiche readers and files are located at centers throughout the state; workshops are held to acquaint persons with the availability and use of the materials and equipment, and special flyers are prepared according to subject and user groups, informing those in each specialized group of new research developments in their field which they can read at the nearby centers.

MANAGEMENT INFORMATION SYSTEM

The Department of Education should assign top priority to the development and implementation of a management information system. The first step would require an analysis of the existing financing, budgeting, accounting and reporting data and procedures and an examination of the federal requirements in each of these administrative and reporting phases.

The department's ability to plan, supervise and coordinate the operation of the various educational institutions and functions for which it is responsible depends upon the quality and availability of information related to those operations.

The management information system must be designed to complement clearly stated objectives of the education department by providing the data necessary for:

1. Rational and optimum decisionmaking in allocating resources to meet these objectives.

2. Ensuring accountability of each segment of the educational system which is assigned responsibility for certain results.

3. Evaluating program decisions.

4. Reassessing departmental objectives.

The design, development and implementation of an effective management information system for Louisiana will not be accomplished easily nor quickly. It will require a major commitment by the department and the creation of a special staff unit within the administrative division of the department.

Planning of the management information system should borrow from systems developed in other states but must be designed to serve the needs of Louisiana. The system should be implemented on a priority basis and in phases. The completed system should be able to assemble necessary data without duplication and with a minimum of effort. Data should be classified and stored for easy retrieval to serve identified purposes of planning, budgeting, management, control, evaluation, research, reporting, guidance and public information.

A number of states have developed effective education management information systems. In California, New York and Pennsylvania, the systems are being developed in conjunction with their general state program, planning and budgeting system (PPBS).

A data collection model has been devised for a vocational-technical management information system at Ohio State University's National Center for Vocational-Technical Education. An Occupational Training Information System (OTIS) has been developed by the Oklahoma Department of Vocational and Technical Education which provides a fully documented computerized method for comparing occupational supply and demand for a state as well as regions within a state. The OTIS system relies heavily on survey methods, and is geared to providing the type of data which permits annual decisions on programs offered. Several states have designed special computerized systems for various aspects of educational management and planning, including one in Georgia to control local programs operated under state funding through contracts.

Responsibility for the management information system and for assembling and disseminating information should be centralized within the State Department of Education. Regional centers might, however, be developed to provide computer services of an internal nature for local institutions, including class scheduling and test grading. These regional centers could also serve as intermediate collectors and processors of institutional data for transmission to the central computer files.

No attempt has been made here to outline a management information system for the department. However, Table 40 provides a partial listing of the sources and types of data "inputs" which the comprehensive system would be required to process systematically in order to present as "outputs," in appropriate form, the various educational data needed.

A computerized management system of information with such capabilities could reduce some of the clerical routines and provide state leadership personnel with data needed to make intelligent management decisions.

In the following discussion the major purposes of the management information system are considered in relation to the central concern of this study—programs for occupational training through career education. Examples of inputs and outputs for a management information system are shown in Table 40.

Manpower Needs

The management information system should incorporate the development of statewide and area manpower projections, using the

Table 40. Proposed Management Information System for Louisiana

Inputs
(Types of Data and Sources)

Curriculum, program expenditure, student characteristics, teacher, facilities, and enrollment data

- Elementary and secondary schools (Public and private)
- State vocational-technical schools
- Private vocational schools
- Manpower training programs
- Industry training programs
- Apprenticeship training
- Colleges and universities (Public and private)
- Special Schools
- Students

Economic, employment, skills requirements, job demand and projection data

- Division of Employment Security (federal, state and area)
- Department of Commerce & Industry

→ **Management Information System** →

Outputs
(Reports and Uses)

- Educational objectives and priorities
- Program planning
- Fiscal control
- Curriculum design
- Program monitoring
- Program evaluation
- Cost effectiveness
- Federal reports
- Special research
- Facilities and equipment inventory
- Guidance program
- Public information
- Manpower needs projection
- Teacher training needs and curricula
- Industrial development possibilities in state and area (training related)

- Employer surveys
- Advisory councils
- Chamber of Commerce
- Colleges and universities
- Special studies

Social-demographic data

- U. S. Census
- Colleges and universities (Divisions of Business and Economic Research)
- Louisiana Health and Social and Rehabilitation Services Administration
- U. S. Department of Health, Education and Welfare
- Special studies

Program funding alternatives

- U. S. Department of Health, Education and Welfare
- U. S. Department of Housing and Urban Development
- U. S. Office of Economic Opportunity
- U. S. Department of Labor

New program and education theory developments

- Occupational curriculum inventory and directory
- Occupational education growth report
- Occupational student follow-up report
- Population characteristics
- Special population needs
  - Disadvantaged
  - Disabled
  - Area concentrations
- Area coordination
- Internal departmental management
- Departmental budget
- Budget justification
- Institutional supervision
- Functional supervision
- Innovative programs
- School enrollment projections

most current and sophisticated projection methods. The actual industry-occupation structure of the state should be determined and constantly validated through systematic employer surveys. Local advisory councils and relationships of institutions with immediate employers should provide further inputs into the system.

Although consideration must be given to specific local manpower needs, the total state vocational-technical and professional training programs should be balanced to meet the overall statewide needs. In some areas of the state it may be necessary to train for jobs available in other parts of the state. If industrial growth cannot provide sufficient opportunities within the state, training may also have to be geared to reflect national manpower requirements.

Federal planning requirements have mandated the development of data and projections related to occupational needs. This data is prepared by the Department of Employment Security in cooperation with the State Department of Education.

To date, the occupational data included in the state vocational-technical plan has been developed by use of very simplified projection methods. No comprehensive effort has been made to validate the occupational projections through field surveys. The data has all but been ignored in the planning process. Its use was limited in the 1972 state plan to a conclusion that "the projected labor demand when compared with vocational education program output indicates a greater demand relative to supply in every occupational area." Improved data would permit an analysis of the relative training needs in each occupational area and development of a plan for reorientating programs to create an optimum training mix.

The Department of Education should move quickly to coordinate the developing manpower information projects in the state and should assume control of the overall system.

For this study, the projections of manpower needs utilize U. S. Bureau of Labor Statistics (BLS) methodology and the latest computerized national industry occupation matrix, updated to project to 1980. (See Appendix for an explanation of the methodology.) The state's efforts to complete such a projection for 1975 were halted due to lack of available staff in the Department of Employment Security and dependence upon the federal government for computer processing. However, the tapes have been available from the BLS, and a minimum of programming is necessary to accomplish the computer work. With the creation of a management information system unit, the programming and computer work for maintaining up-to-date projections could be handled within the education department, using employment security data. These program routines could further be adjusted to incorporate employment data from other sources.

The new State Superintendent of Education has indicated that the development of meaningful manpower projections has top priority, and efforts to initiate such a project have recently begun.

Guidance

The management information system should be used to supplement career guidance programs. In addition to program planning applications, manpower information is essential to provide adequate career guidance. The development of two experimental guidance systems on a local basis is presently underway in the state.

The Vocational Information Technique Applied Locally (VITAL) program to serve East Baton Rouge and eight surrounding parish school systems is an exemplary program funded through the Research Coordination Unit of the State Bureau of Vocational Education. The project is using an employer survey and other occupational information to prepare microfilm aperture cards. Using readerprinters, students may scan career opportunities of interest. It is designed not only to serve students but also schools, teachers, counselors, librarians, parents, administrators and employers. VITAL systems have been established in some 30 other states.

A computer-based data system for vocational career guidance is being designed for the New Orleans Public School System, based on a model developed in Illinois. This system will include a complete data bank on all employer-job profiles in the metropolitan New Orleans area and the capability of containing all the student profiles. The student would use the computer to evaluate his abilities and desires, and, together with counselors, plan a suitable training curriculum.

Both of these programs are aiming for statewide adoption. They should be carefully evaluated by the proposed management information system unit and any resulting statewide applications should be coordinated with the comprehensive information system. The information collection should be under the control of the recommended management information system unit. Employers should be relieved of answering the multiple requests for employment data made by various ad hoc study groups and state agencies in recent years.

Currently, there are monumental problems in predicting availability of jobs. Considerable work is being done throughout the country in model building, projection methods and occupational research. More sophisticated tools for prediction should be incorporated as they become available. Until projection methods are improved substantially, a great deal of reliance must be placed on adequate follow-up of students to provide continuing evaluation and correction of projections.

Cost Effectiveness

The Administration and Finance Division of the State Department of Education should move rapidly to develop a uniform cost accounting system.

Cost-effectiveness studies are needed to evaluate, plan, organize and finance all phases of education so that a total program can be achieved. Data should include student failure rates, course schedules and information about students, faculty and other staff, facilities, equipment and expenditures. Data on student completions should be related to initial enrollments. Collection of this data need not await implementation of a sophisticated management information system. Data could be structured in a program format to indicate units of cost.

The cost-benefit study approach should be used to select new vocational-technical programs as well as to eliminate others. Cost data permits a rational and efficient allocation of resources. However, programs and enrollments cannot be used as the only measures of performance. Program activity must be translated into measurements of utility or value. A subjective determination must be made as to the benefits of certain training results. For example, the relative benefit of training a certain number of disadvantaged students cannot be determined on the basis of cost records alone. Establishing these values and the criteria to be applied in the cost-effectiveness analysis must be provided by the department's central planning and evaluation unit. To the extent possible, these values must be quantified to facilitate the rational use of the cost data in program planning.

Accountability

Each element of the total educational system must be held accountable for specific educational outputs or outcomes. One of the major functions of an adequate management information system is its role in assigning responsibilities to insure accountability.

Again, the objectives of education must be clarified and quantified. Outputs, in terms of the measurable effects of learning, should become the basis for assessing performance.

An accountability system defines who is answerable to whom and for what. One example of the way in which the accountability system might be used is outlined by Grant Venn. He suggests the following measurable objectives for which school system administrators might be held responsible:

> 1. **Enrollment growth.** To show a continuing increase in the percentage of noncollege bound youth enrolled in occupational programs at the secondary and postsecondary school level.
> 2. **Offerings growth.** To show a continuing increase in the range and diversity of vocational curriculum offerings until such offerings adequately reflect both manpower requirements and the range of talents in the school-age population served.
> 3. **Holding power.** To show continuing improvement in student holding power so as to increase the percentage of students who complete the vocational curriculum of their choice.
> 4. **Knowledge and skill.** To show continuing improvement in the percentage of completers who have attained at least minimum standards of adequacy in both general and occupational entry-level skills.
> 5. **Occupation motivation.** To show continuing improvement in the percent of completers motivated to enter the field for which trained or a field or equivalent or higher skill involvement.
> 6. **Placement performance.** To show continuing improvement in the percent of qualified program completers placed in the occupations for which trained or in related occupations.[3]

These objectives might be used to evaluate the effectiveness of public vocational-technical education systems as suppliers of trained manpower.

The contract method for assuring accountability of the various elements of the educational system could and should be used in Louisiana. Applications include contracting for new vocational-technical programs as well as contracting with teacher training institutions to assure that the output of vocational-technical teachers is adequate and to assure that teachers are oriented toward career education. To make this approach work effectively, funding arrangements or formulas should be based in part on the extent to which the contracting institution or school system has met its previous year's accountability objectives.

Georgia's Department of Education provides an example of an accountability system using contracts. A contract agreement is made between the state department and the local school systems for funds provided under a comprehensive career and vocational education program. The 15-page contract agreement stipulates the criteria, processes and activities which are to be used in administering the various aspects of the program. Leeway is given by designating possible choices, but each of the agreed upon objectives or activities is measurable, and performance of the contract can be monitored and evaluated. The contract document assures that all of the important aspects of the program—from career orientation beginning in the first grade to job placement services—are developed.

Program Evaluation

A statewide system to follow up on students should be designed and implemented by the State Department of Education.

The follow-up system should include secondary and postsecondary graduates and dropouts. Staff of the state department should analyze all follow-up data and information. Schools should have an effective exit-interview system to determine the real causes of dropping out, and guidance counselors should urge all students to cooperate in follow-up studies.

The Vocational Education Act of 1963 required the states to evaluate federally aided programs, particularly with regard to how effectively such programs were meeting identified manpower requirements. The 1968 amendments to that act place even greater emphasis on the annual evaluation of all aspects of vocational education programs. Even if this were not the case, it is imperative that the state develop systematic program evaluation procedures.

One of the most important measures of a vocational-technical training program is to determine what happens to the graduates and early leavers. Up to this time, Louisiana secondary schools have made essentially no attempt to keep up with vocational-technical students, and efforts of the vocational-technical schools and colleges have been very limited. Such data that has been collected has had no value for program planning and evaluation at the state level.

Several states have been attempting to improve their follow-up systems. The National Center for Research and Training in Vocational Education at Ohio State University has developed a state computerized approach which merits attention. Another computerized follow-up system, developed for the Pennsylvania Department of

Public Instruction by the Educational Systems Research Institute, requires the cooperation of local school systems but relieves them of much of the burden and nearly all of the survey costs. The Pennsylvania model uses central computer analysis to interrelate information from the schools, from the school districts and from an annual mail survey. It includes 1-year and 5-year follow-up components to assess the short-run and long-run impact of training programs.

The follow-up study contained in this report could be used as a starting point for developing a statewide system in Louisiana.

Budgeting for Education

The present budgeting system for education should be revised so that expenditures can be allocated and administered on the basis of programs to be carried out and the number of persons involved in each program.

This type of budgeting is called performance budgeting because it involves determining the cost of various programs and allocating the money on the basis of the cost per unit times the number of units of work to be performed.

Such an approach permits a comparison of the costs and benefits of individual programs and thereby assists the governor and legislators in determining how state funds can best be spent. Hence, it helps to assure quality as well as efficiency.

It also gives department heads greater flexibility in spending their allocations since controls can be exercised on the basis of the number of units of work being performed and the cost per unit rather than on the basis of line items such as salaries, materials and supplies.

The state has been making some efforts toward performance budgeting in education through a formula for institutions of higher education based on the cost per student credit hour. However, the formula needs considerable refinement. Also, more effort needs to be devoted to measuring costs and production during the year to make the system fully effective.

Little has been accomplished in the development of performance standards for programs of the vocational-technical schools. Budgeting and administration are based primarily on line items of expenditure and past spending patterns, with little emphasis on programs being offered, their cost or need.

Development of a well coordinated and planned vocational-technical system for the state, with the necessary flexibility to meet changing conditions, will depend on developing a system to determine the cost per unit of the various programs and a procedure to monitor programs once they are approved.

The need for cost and performance data will be acute in determining new vocational-technical programs to be undertaken. If regional coordinators are established to study and evaluate the needs of their region and make recommendations to the proposed state assistant superintendent for instruction, then proposals should be accompanied by cost and performance data to aid in determining the greatest benefit to the state for the dollars to be spent. This would be of great importance in assigning priorities to programs, since it is not likely that there ever will be sufficient money available to finance all the programs recommended by the proposed regional coordinators. The need to have specific data to determine priority of need will be especially important in the next few years as efforts are made to fill the existing gaps in programs.

To permit the state to move ahead with an expanded vocational-technical program, the following recommendations are made:

1. A system of performance budgeting should be developed for all programs now being offered at the vocational-technical schools and at all colleges and universities, with the first effort at the collegiate level devoted to developing a system for providing performance data for all subbaccalaureate degree programs.

This information should be reviewed by the proposed assistant superintendent for instruction to determine whether existing programs should be continued, discontinued, expanded or contracted. The performance data should be evaluated in light of the findings and recommendations of each of the proposed regional coordinators as to the training needs in their regions. The comments and recommendations of the assistant superintendent for instruction should be submitted to the state superintendent and State Board of Education, and then on to the governor and State Budget Office for recommendations for inclusion in the executive budget.

2. After evaluation of the recommendations of the regional coordinators, the assistant superintendent for instruction should prepare a budget request for the initiation of new vocational-technical programs. The budget request should list the requested new programs in order of priority and the estimated number of units of work to be accomplished (student credit hours, class time [contact] hours or some other such measure) and the cost per unit. Each

recommended program should be accompanied by a short statement as to the need for the program.

3. Upon legislative approval of all or some of the requested programs, the appropriation should be made to the State Department of Education, and the assistant superintendent for instruction should determine where each program could best be provided. Once this determination is made, each school should be given funds approved by the Legislature and proceed to offer the program.

After a program is approved at an institution, it should be a part of its budget for the ensuing years until it is determined that the program should be eliminated or moved to another institution.

This approach would provide a great deal of flexibility in meeting the vocational-technical needs of persons in all parts of the state. Many vocational-technical programs differ somewhat from the standard academic programs in that they may be of short duration, and the need for training in a particular area may move from one part of the state to another. For that reason, authority must be centralized in the assistant superintendent for instruction's office to determine which facility should provide the various programs and to authorize transfer of programs from one institution or area of the state to another when necessary.

ROLE AND SCOPE OF EDUCATIONAL INSTITUTIONS

The role and scope of each type and level of educational institution should be delineated.

ELEMENTARY AND SECONDARY SCHOOLS

Elementary and secondary schools should revise their curricula to incorporate the career education concept along with the teaching of basic education subjects.

The public schools are responsible for students during their formative years, and should have sole responsibility for familiarizing students with careers and exploring job options. The public schools already have experience in providing basic education and in the exploratory areas of home economics, industrial arts, basic clerical education, cooperative distributive education and agriculture, and are acquiring aptitudes in teaching basic job skills through trade and industrial education. These areas of responsibility need to be expanded into also providing a comprehensive program of career motivation, orientation, exploration and counseling. Such programs should include a much wider range of programs and a more thorough integration of career education into the total curricula.

Minimal training should be offered so that those students who drop out of school before high school graduation, or who do not continue their education beyond high school, have a saleable job entry skill. Such training should also provide a good foundation for those who continue their education beyond high school.

CAREER MOTIVATION

Elementary education should concentrate on developing career motivation, which is the foundation of career development. Career motivation includes developing attitudes about personal and social significance of work by giving students a positive attitude toward work, school and themselves as a worker of the future.

More emphasis should be placed on the existing curriculum of the elementary schools to teach students basic subjects such as reading, writing and arithmetic, but career motivation activities should be fused into the curricula.

Career activities should start with familiarization with occupations found in the immediate environment and move on to those in the broader community, and should include participation in miniature work experiences, observation of workers, and a range of various experiences representative of a cross section of the occupational spectrum. Specifically, students should:

1. Identify occupations in the community.

2. Develop identification with workers in various occupations.

3. Apply basic educational, manipulative and cognitive skills in performing simulated work activities of a creative, organizational and operative nature.

4. Recognize work activities liked and performed best, that give greatest satisfaction, and identify occupations in which similar activities would be required.

5. Describe selected self-characteristics and environmental factors that can have an impact upon an individual's future; identify ways in which others have minimized negative and maximized positive factors.

6. Identify factors that influence work environment and describe the nature of the influence.

7. Learn to get along and work with peers.
8. Complete assigned tasks.
9. Develop respect for all levels of work.

CAREER ORIENTATION

Junior high schools, grades 7 and 8, should also emphasize the teaching of basic subjects but a program of career orientation should be incorporated into such teaching.

The middle years, grades 7 and 8, are a critical period when students need to find logical and convincing reasons to stay in school. Such reasons can be bolstered if students identify with possible career goals and receive guidance to help obtain these goals.

During these early secondary years, a concerted effort must be made to orient students to a full range of occupations. Students should be enabled to differentiate among occupations in terms of the amount and type of education needed for job entry; the content, equipment, setting, products and services of occupations; the value of occupations to society and their ability to provide desired life styles; the extent to which occupations satisfy interests and values; and ways in which certain occupations seem appropriate for particular individuals.

The State Department of Education should design curricula in which course material is related to its use in various occupations. The cluster concept should be used as a method of orienting students to various occupations so that they may later make a knowledgeable choice of careers.

Possible educational avenues available through secondary and postsecondary education should be identified, and major concepts underlying the economic and industrial systems should be discussed. To give all students a comprehensive program of career orientation, each curriculum should be arranged so that the composite of these courses will give students an orientation to a broad range of occupations.

CAREER EXPLORATION

High schools, grades 9 through 12, should concentrate on developing career exploration programs for all students. In addition, basic job entry level training should be available to students who do not plan to continue their education through or beyond high school.

Secondary students need education that will provide flexibility in making a decision—whether to go to work or to continue their education. Hence, secondary students should be provided with entry-level skills for broad occupational areas and/or preparation for postsecondary education in a specific career—whether it be a craft, technical, paraprofessional or professional job.

Students should learn employability skills such as responsibility, cooperation, taking instructions, being on time and remaining on the job. More people lose jobs because of lack of these skills than for any other reason.

During the high school years students should have the opportunity to examine and gain firsthand experiences with various occupations. Students should have an opportunity to explore the skills, settings, products and services of selected occupational areas. Exploration should include laboratory and actual employment experiences to develop basic technical knowledge and work habits.

The state should design curricula in exploratory programs and establish statewide support for cooperative education in all fields.

Act 71 of 1972 should permit considerable expansion of cooperative work-study programs by removing legal impediments. This act amends Louisiana's child labor laws to exclude from coverage minors employed in a job related to a curriculum of a vocational-technical public school, subject to approval of the parish school superintendent. Employment must be in a bona fide program of vocational cooperative training which meets standards of the State Board of Education.

All curricula providing entry level skills should be standardized throughout the secondary school system to allow students to transfer from one school to another and also to continue in postsecondary training without duplication.

Present instructors and facilities should be used as much as possible in developing various career exploration programs.

Present disciplines can be grouped into the following broad career areas:

1. Fine Arts and Humanities—music, art, speech, English, foreign languages.

2. Mathematics—mathematics, algebra, geometry, trigonometry, calculus.

3. Social Sciences—geography, civics, American history, Louisiana history, political science.

4. Natural Sciences — biology, chemistry, physics, general science.

5. Business Arts—typing, stenography, accounting, business administration, merchandising.

6. Industrial Arts—woodworking, electricity, metalworking, power mechanics, drafting.

7. Homemaking and Service Arts—child care, clothing, food services, health care.

8. Agriculture—production, mechanics, supplies and services.

9. Recreation—physical education.

The courses for each of these curriculum areas should be made more comprehensive, with exploration into the various occupations using the discipline. Programs should also be made more career-oriented, including firsthand occupational experiences whenever possible. For example, the educational programs in homemaking and service arts should be reoriented to provide basic exploration and skill training in wage-earning areas such as child care, clothing production, food service and health care. The hobbycraft aspects of industrial arts (such as building birdhouses) should be deemphasized, and a broad and relevant program in the basic technical knowledge and skills required by industry should be instituted.

In addition to these exploratory programs in the schools, a complementary program of cooperative education with business, industry and the professions, covering as many occupational fields as possible, should be instituted.

COOPERATIVE PROGRAMS WITH VOCATIONAL-TECHNICAL SCHOOLS

Local school systems should not attempt to provide advanced vocational-technical training.

Although local schools should make basic, entry-level training a part of their career exploration program, they have neither the basic institutional format, facilities, nor expertise to provide sophisticated skill training beyond the basic level. Regional and vocational-technical schools have considerable advantages over local high schools in providing such education. The tasks of providing career guidance, motivation, orientation and exploration are gigantic. All the resources local school systems can muster will be necessary to provide students with adequate programs in these areas.

Cooperative programs between the high schools and vocational-technical schools should be expanded to allow high school seniors to attend the vocational-technical schools full time or part time, and acquire a specific job skill while in high school if they so desire. Credit for such vocational training should apply to high school graduation. High school students who are enrolled in the vocational-technical schools should also be allowed to take remedial courses in basic reading, writing and mathematics at the schools if they need them, and high school credit should be given for such training. Maximum credit allowed in vocational training towards high school graduation requirements should be changed to allow high school students who wish to gain more concentration in job preparation the opportunity to do so.

There are a number of reasons why it would be advantageous to allow high school seniors to attend vocational-technical schools full time, rather than only part time.

1. Problems of transporting students between the high school and the vocational-technical school during the day would be avoided, eliminating loss of time and problems in scheduling buses.
2. The problem of scheduling classes to accommodate cooperative high school students would be eliminated.
3. Present basic course requirements for high school graduation could be met in 11 years within the elementary and high schools, with concentration on full-time job preparation during the 12th year. The 11 years within the public school would permit full orientation and exploration leading toward career selection.
4. High school students could take advantage of a more comprehensive curriculum at the vocational-technical school than they could if they spent their senior year at the high school.
5. Personnel policies of most industries allow the employment of those 18 years old if they have the necessary job skills. Hence, those who wish to terminate their formal education after high school graduation could be prepared for immediate employment.
6. Specific job training on a full-time basis in the senior year should encourage more youths to stay in high school until graduation.

CAREER GUIDANCE

The state should place far more emphasis on providing an adequate system of guidance which is of particular importance in career education.

1. The Legislature should appropriate funds as an immediate goal to assure at least one full-time professional guidance counselor in each school system. Within the next 2 years, funds should be provided to assure a minimum of one guidance counselor in each elementary and secondary school, either half time or full time, depending upon the size of the school. Within a 5-year period, national standards of 400 students per counselor on the elementary level and 300 students per counselor on the secondary level should be achieved.

2. To encourage local school systems to employ guidance personnel, counselors should be funded through the state minimum foundation grant to local schools. Presently, such funding is authorized but no appropriations have been made. A 1971 appropriation of $500,000 was vetoed by the governor.

3. Counselors funded through the state minimum foundation grant should devote full time to providing counseling services, rather than being diverted to administrative and clerical duties.

4. The present requirement that guidance counselors must have a teacher's certificate and teaching experience in order to be certified as counselors should be deleted, and a requirement should be added that counselors must have a year of in-service experience to be certified. The present requirement that a counselor have a master's degree in guidance should be maintained.

If the supply of counselors is to be expanded in the next few years, as it must, the requirement that guidance counselors be experienced teachers should be removed, particularly since teacher training and experience is not relevant to guidance counseling.

5. Training of guidance counselors should include more exposure to and knowledge about vocational and technical occupations and modern counseling methods. Trainees should receive some in-service training at vocational-technical schools, other educational institutions, employment agencies and industry.

6. Testing and the evaluation of tests used by guidance counselors should be standardized throughout the state. A manual should be written and distributed to guidance counselors, explaining the testing and interpretation system.

7. A major statewide in-service training program to educate counselors in the vocational and technical occupations and in modern counseling methods should be instituted. The Guidance Section of the State Department of Education is conducting some in-service training; however present efforts should be expanded.

8. The feasibility of using aides to assist guidance counselors should be explored.

9. A statewide guidance information system should be established.

IMPLEMENTATION OF CAREER EDUCATION

The State Board of Education and Department of Education should assume leadership in planning and activating a program of career education at the elementary and secondary levels. The department should:

1. Develop special task forces in career education to pinpoint needs for career curricula development for the elementary, junior high and senior high levels. The new State Superintendent of Education has already appointed several task forces, including one on career education.

2. Assemble pertinent "on the shelf" curricula and research findings on career education developed by the U. S. Office of Education and other states, as well as Louisiana, in order to utilize information and experience already developed that has proved worthy. The new assistant superintendent for career education has already assembled a great deal of materials.

3. Plan and activate a program of in-service training or workshops for board members, administrators, guidance and counseling personnel to develop an understanding and agreement on the appropriate philosophy and application of career education.

4. Develop a syllabus on the philosophy and objectives of career education, and supply this as a guide to be used for preservice and in-service training of teachers as well as by school administrators and officials.

5. Design curricula, which could be applied throughout the state with sufficient flexibility so as to be appropriate to different local situations and environments. Three pilot projects are underway to develop models adaptable to different local situations.

Revamping Louisiana's public school system to provide career education demands a tremendous change in the educational system, but this goal can be reached largely through utilizing existing educational resources.

There is no time for establishing special facilities, nor for training specialized teachers. In fact, it would be unwise to do so.

Career education must be integrated into the whole educational program. Otherwise, there is danger of establishing an artificial separation between the academic and the vocational, and the improved performance in basic subjects which should come from the infusion of relevance would be lost.

The suggested program utilizes elementary and secondary instructors in existing courses for career motivation, orientation and exploration. Where the number of counselors is insufficient, they should be added; where all the areas of exploration are not available, they should be made so; but largely the instructors and facilities for career education exist today. The success of implementing career education will depend, to a large extent, on the classroom teacher. Teachers need to receive supplemental training in career education and the "world of work," and some equipment must be added, but the required investment is meager compared to the benefits to be derived from a new system of career education.

Through a system of career development, students should be able to gain the skills required for many entry-level jobs when they are 16 or 17 years of age. By the time they finish high school, through engaging in a cooperative program with a vocational-technical school during the senior year, students should be able to acquire skills at an entry level covering most occupations. Those students wishing to pursue higher level skills would be able to do so at a vocational-technical institute, college or university.

13TH AND 14TH YEAR PROGRAMS

Present law allowing local school boards, with approval of the State Board of Education and the Louisiana Coordinating Council for Higher Education, to extend the high school curricula to include a 13th and 14th year should be repealed.

Adding a 13th and 14th year of vocational-technical training to curricula of high schools would be one means of relieving the demand for postsecondary training that the state's vocational-technical schools have been unable to meet because of limited funds, faculty and facilities. Such a proposal is said to have merit because existing high school facilities could be used during after-school hours. However, additional faculty and equipment would doubtless be necessary in most school systems.

It has also been argued that members of local school boards, who are elected, have more rapport with community needs than do directors of vocational-technical schools whose allegiance is to the state.

Despite these arguments, there are many disadvantages that would result from postsecondary vocational-technical training provided through the high schools.

1. Instead of solving the existing financial problems of the vocational-technical schools, an alternate would be instituted that would aggravate the situation by duplicating programs and causing competition for students and funds.

2. An extended high school program using high school facilities would fail to meet the needs of many. Those wishing full-time postsecondary training during the day could not attend the 13th and 14th year program since it could only be offered in the evening when the high school was not in use for its regular program. Moreover, the high school setting may prove to be unappealing to adults who have left high school and do not wish to return.

The program would not answer the needs of the many high school dropouts, since it is intended only for those who have graduated from high school. Even if the program were to be extended to include high school dropouts, the high school setting would be a poor solution since it is this institution that the high school dropout has tried to escape. On the other hand, the vocational-technical school represents a distinct break with high school, offering a neutral environment that is not oriented toward any age or grade level.

3. Curricula offerings through a 13th and 14th year would be far more limited than that which could be offered in a central school which has multipurposes such as the regional and area vocational-technical school which would serve a large area. Offerings might be divided among several high schools in a community.

4. Instituting vocational-technical programs at the 13th and 14th year could cause local school boards to delay providing vocational training until it is too late for many who have already dropped out of high school.

5. Thus far local school boards have not had an outstanding record of providing vocational training within the traditional age groups for whom they are responsible. Rather than add to their responsibilities, local school officials should concentrate on the great challenge they face in instituting motivation, orientation and exploration within the "career education" concept, and in providing job-entry level training in the high school grades. They must also find a better way of teaching basic education subjects, for far too many of our youth lack such essential knowledge.

Wilson Riles, state superintendent of public instruction in California, has noted:

> According to the U. S. Office of Education, nearly 2.5 million students each year leave the formal education system without adequate preparation for careers. This is partly due to curriculums traditionally designed as if earning and learning had nothing in common. In fact, it has almost seemed as if precautions had been taken to keep the real world from impinging upon the sanctity of the classroom.[4]

6. Skill training requires a quality program which can only be achieved through expertise. Vocational-technical schools have years of experience in this field while local schools do not.

7. The possibility of achieving a well-planned and coordinated system of postsecondary vocational-technical training throughout the state, which would provide equal opportunity to persons regardless of where they live, would be diminished through a variety of local programs that would depend upon the leadership, imagination and efforts of local school officials.

8. Most school superintendents acknowledge that they do not have the funds to institute needed vocational training at the present high school level. To extend the high school program would require additional funds, most of which would probably come from the state. If the state is to provide the money, it could make more efficient use of its funds through regional and area vocational-technical schools. Moreover, these schools could relieve high school systems of some of their costs by providing vocational training to high school seniors under cooperative arrangements.

VOCATIONAL-TECHNICAL SCHOOLS

Louisiana's vocational-technical schools should be upgraded so that they can play a major role in meeting the state's need to expand job training. The following recommendations are designed to achieve this goal.

MISSION OF THE SCHOOLS

Vocational-technical schools should be the primary source of training for job skills for the majority of persons in the state.

These schools should continue to provide vocational-technical training to the following types of students: high school dropouts, high school graduates, high school students under cooperative arrange-

ments, college dropouts and college graduates who may be unable to obtain a job and wish to acquire a specific job skill.

These schools should also continue to provide the following services: training or retraining for vocational-technical occupations; upgrading of skills for those already employed in the occupation; and classroom instruction to complement on-the-job training for apprentices.

In addition, the following services should be added: adult basic education for those who cannot read or write, or whose reading, writing and computative skills need upgrading to meet job requirements, and job training for the federal manpower programs where possible under federal law.

The curricula of the vocational-technical schools should be limited to those programs of less than an associate degree in nature.

High school credit for occupational training as well as remedial courses or adult basic education should be allowed for high school students enrolled in the vocational-technical schools under a cooperative program.

Delgado should be reoriented toward vocational-technical education, and its academic curricula should be limited.

The vocational-technical school has a number of advantages over other types of institutions in providing specific skill training.

1. Louisiana has a long tradition of providing vocational training primarily through specialized vocational schools, dating back almost 40 years. The federal government has recognized the value of this type of institution by encouraging states to construct such facilities under the 1963 Vocational Education Act. Federal funds caused the number of such schools throughout the country to triple in 4 years—from 405 in 1965 to 1,303 in 1969, with still more schools being planned or constructed. Louisiana's system is said to have been a model for some other states; unfortunately, other states have moved ahead of Louisiana.

2. Vocational-technical schools have the capability of serving a variety of students needing specialized training. They are not geared to one level of student nor any established intellectual capabilities as are high schools and institutions of higher education.

3. The same faculty, facilities, classrooms, shops and laboratories can be used for various types of students, thus enabling a large number to be served at comparatively less cost than the other more traditional types of institutions. Louisiana's vocational-techni-

cal schools operate day and night, all year long, thus making maximum use of facilities and accommodating students who wish to attend during the summer or work during the day and go to school in the evening.

4. By their very nature, as area institutions, vocational-technical schools centralize programs, thus enabling them to have a large potential student body and broad curricula.

5. Since vocational-technical schools have but one primary mission—to train persons for a job—they can concentrate on this most important endeavor and develop expert supervision, vocational guidance and job placement.

6. There is a great need for more exposure of teachers and guidance counselors in the elementary and secondary schools to job training. Vocational-technical schools can serve as a training ground to help meet this need.

7. The cost to students is less than at so-called low-cost junior or community colleges operated in other states.

8. Vocational-technical schools are occupationally oriented; their staffs are drawn largely from journeymen and craftsmen concerned with the practical aspects of their trades. Junior colleges, while professing to serve all citizens, often tend to assume a college format and a desire to be able to transfer students to a senior institution to achieve prestige.

9. An increasing number of jobs are demanding postsecondary training rather than the minimal skills that could be taught in high school. The vocational-technical schools, by their nature, could be upgraded to meet this need.

STATE ADMINISTRATION OF THE SCHOOLS

Administration and financing of vocational-technical schools should be continued at the state level. State control has a number of advantages over local control, particularly in Louisiana which has a tradition of centralizing services at the state level. Arguments for continuing state control in Louisiana include the following:

1. The possibility of a comprehensive, coordinated and well planned program is enhanced through leadership at the state level. Under a well articulated program, maximum use of facilities, faculty and equipment throughout the state can be achieved, thus better

assuring equal opportunity for quality vocational-technical education at all schools.

2. Expertise, so essential in vocational-technical training, can be developed more readily through selection of key people as state and regional administrators. High standards of instruction and highly qualified graduates can be achieved better under state control. Regional institutes could offer elite programs for the highly motivated and qualified students who would move into a specific skill area when their vocational interests and aptitudes are known.

3. The history of vocational-technical schools in Louisiana indicates that local control has proved to be unsuccessful. The first of Louisiana's vocational-technical schools was established by a local school board as part of the parish school system, but was given to the state 3 years later. Delgado, under administration of the City of New Orleans for almost 50 years, was transferred to state control in 1970, because local control proved to be unsatisfactory.

4. Few question that institutions of higher education should be administered and supported at the state level. It is difficult to see why a distinction should be made for vocational-technical schools which also represent postsecondary education.

5. Recent court decisions indicate that the property tax, now the major source of local revenue, is an inequitable means of financing schools at the local level. This could mean more centralization of school financing at the state level in Louisiana and other states. It is questionable that an additional financial burden should be placed on local school boards at this time. Moreover, most local school superintendents report that they lack sufficient funds to institute vocational programs within schools for which they now have responsibility.

6. Louisiana has 33 vocational-technical schools, located in 28 parishes throughout the state. Some parishes have two schools while others, including some populous areas that should have schools, have none. Since vocational-technical schools are not located in all parishes, there is a question whether it would be fair for the state to give such facilities to some local school boards and not to others.

7. Some students are forced to leave their parish of residence and go to another to obtain a desired curricula at a vocational-technical school. State administration offers more flexibility in allowing students to leave their parish and enroll in any school they wish within the state without having to obtain special permission or without having to work out a means of reimbursing local school boards.

8. Community involvement, so important in vocational-technical education, can be achieved without local administration through such means as local advisory committees, cooperative arrangements between the state and local school boards, and a vigorous public information program.

9. State control can assure that offerings at the schools are up-to-date and reflect broad state and national rather than purely local labor market needs. In areas of high unemployment, out-migration may be necessary and desirable from an economic point of view, and state control would be more likely to follow such a policy.

Personnel in the State Department of Education would be in a better position to analyze labor market needs on a state and regional level and minimize the tendency for local schools to reflect only local labor market needs.

10. Those parishes with urgent need to provide jobs are frequently the poorer parishes which lack the resources to finance a vocational-technical program. Hence, some potential students may not have access to a vocational program under local administration.

11. Local school boards traditionally have been concerned with college preparatory and general education and have little experience in administering skilled training programs. They also place primary emphasis on providing education to youth rather than to adults and dropouts.

12. Area schools and regional vocational-technical institutes could provide an ideal means for educational innovation and coordination of programs. Curricula specialists responsible to the state department could work between the vocational-technical and sending schools to coordinate programs and provide leadership in establishing career development curricula in local schools.

13. State control over vocational education should provide the basis for appropriate evaluation of educational activities. The State Department of Education, through research activities, should be in a position to conduct cost-effectiveness studies which would be the basis for better use of money and for innovative programs to replace existing ones that are not achieving their explicit objectives.

A STATEWIDE SYSTEM

A long-range, 5-year program should be developed to provide vocational-technical schools in strategic locations throughout the

state which would offer a variety of programs and be within commuting distance of almost everyone.

The 33 existing vocational-technical schools do not really encompass the state as would a well planned statewide system. A large number of the schools were established without planning, and separate schools were established for blacks and whites in some areas. As a result, many Louisianians are not within easy reach of any of the vocational-technical schools.

There are designated service areas for each school, but they are unrealistic insofar as commuting distances. Some Louisianians are more than 80 miles from the schools which are supposed to service them. People in 14 parishes are over 40 miles from the closest vocational-technical school facility of any sort. Residents in several other parishes, though not that far from a facility, are separated by major commuting barriers—either by rivers where ferries must be used or by major urbanized areas which must be traversed to reach the vocational-technical school.

Some of the state's larger cities, including Lafayette, the fifth largest city in Louisiana, do not have a vocational-technical school.

The state superintendent of education, with the approval of the State Board of Education, should present the 5-year long-range plan as part of a state capital budget for approval by the Legislature. The two-thirds vote requirement for establishing new institutions should be followed. It appears that a few vocational-technical schools and branches were established without legislative approval, contrary to a constitutional requirement calling for two-thirds approval to establish educational or charitable state institutions. **The Legislature should grant authority to the State Board of Education to merge or phase out some existing facilities when the board feels it is in the best interest of the state to do so.**

REGIONAL AND AREA SCHOOLS

The State should be divided into regions, each with a regional vocational-technical institute. These regions should be subdivided into areas, each with an area vocational-technical school.

A regional institute should (1) be located in a major urban center, (2) have a broad and sophisticated program encompassing 50 to 100 different job preparatory programs, and (3) supervise area schools and branches within the region, provide administrative

services for the area schools and branches such as accounting and recordkeeping, and regulate the exchange of faculty and equipment among schools, to provide flexibility in meeting vocational-technical training needs within the region. Each regional institute would also serve as an area school for the area in which it is located.

An area school should offer a more limited curricula than a regional school, with approximately 10 to 25 different job preparatory programs, and tailor its program offerings primarily to the needs of the area in which it is located.

Branches should be established only in areas which do not have the population to support an area school but would be isolated without a branch, and they should be limited to a very few basic programs.

In those cities where there are two schools, these schools should be merged. Qualified personnel affected by mergers or phasing out of schools should be assured of equal or superior positions.

The system proposed by PAR would have eight regional institutes, 32 area schools and three branches, or a total of 43 institutions. This plan was designed to consider existing schools, population and commuting distance of the population to be served. Ten existing schools are not used, but all of these are small and have limited staff, facilities and programs. Five of these schools would be phased out and replaced with schools located more in the center of the population of the area. The other five schools have small enrollments and are located in cities with another larger facility; they should be consolidated with the larger schools in the same city. One regional institute, 14 area schools and three branches would have to be established, and all existing facilities would have to be upgraded.

Under PAR's proposed statewide system of vocational-technical schools, the following changes would be made:

Suggested location of regional institutes:

1. Shreveport
2. Monroe or West Monroe
3. Alexandria
4. Lake Charles
5. Lafayette (new)
6. Baton Rouge
7. Houma
8. New Orleans

Suggested area schools:

New

1. Mansfield
2. Ruston
3. Bastrop
4. Tallulah
5. Tullos
6. Leesville
7. DeRidder
8. Oakdale
9. Ville Platte
10. Clinton
11. Burnside
12. Thibodaux
13. LaPlace
14. Chalmette

Existing

1. Minden (Northwest Louisiana)
2. Many (Sabine Valley)
3. Natchitoches (Natchitoches)
4. Ferriday (Concordia)
5. Cottonport (Branch of Alexandria)
6. Jennings (Jefferson Davis)
7. Opelousas (T. H. Harris)
8. Crowley (Southwest Louisiana)
9. Abbeville (Gulf Area)
10. New Iberia (Teche Area)
11. Plaquemine (Westside)
12. New Roads (Memorial Area)
13. Hammond (Hammond Area)
14. Morgan City (Young Memorial)
15. Bogalusa (Sullivan)
16. Slidell (Branch of Sullivan)
17. New Orleans, Westbank (Branch of Jefferson)
18. Winnsboro (Northeast Louisiana)

Suggested location of new branches:

1. Cameron
2. Golden Meadow
3. Port Sulphur

Suggested existing schools to be phased out:

1. Greensburg (Florida Parishes)
2. Ringgold (Bienville)
3. Farmerville (North Central)
4. Winnfield (Huey P. Long)
5. St. Martinville (Evangeline Area)

Suggested existing schools to be merged with larger school in same city:

1. Baton Rouge (Capitol Area to be merged with Baton Rouge)
2. New Orleans (Orleans Area to be merged with Delgado)
3. Opelousas (Opelousas Area to be merged with T. H. Harris)
4. Monroe (Delta Area and Ouachita Valley to be merged)
5. Natchitoches (Central Area to be merged with Natchitoches)

Figure 10 and the accompanying legend indicate the geographic location of each of the regional, area and branch vocational-technical schools proposed by PAR. (See page 175.)

COST OF FACILITIES FOR STATEWIDE SYSTEM

PAR did not attempt to determine the precise cost of its proposed state system of vocational-technical schools, but it should not be as staggering as some might presume at first glance. On the basis of current costs of constructing such facilities in Louisiana and other states, a "ballpark" figure for a regional institute would approximate $4 to $6 million to build and equip; an area school, approximately $1 to $2 million; and a branch, about $0.3 to $0.5 million. Hence, the cost of building and equipping new facilities would approximate $20 to $35 million.

Using a "guesstimate," costs of repairing and expanding existing schools which would be utilized in the plan to bring them up to the same standards as proposed for new facilities would approximate $30 to $55 million.

The total cost of constructing and equipping new facilities and expanding existing ones, based on the figures discussed above, would approximate $50 to $90 million. Spread over a 5-year period, this would require from $10 million to $18 million a year. While such a cost is still sizable, the recommended system would serve a vastly expanded segment of the population in need of training to get or keep a job. By way of contrast, the "Superdome" in New Orleans now under construction will cost $150 million or more.

CURRICULA AT SCHOOLS

PAR's proposed system would also entail greatly expanding the curricula presently offered in most schools. Tables 41 and 42 indicate the variety of programs that could be offered in regional and area vocational-technical schools. The lists are by no means exhaustive, but are intended to indicate the scope and variety of programs that might be offered.

FACILITIES STUDY

A thorough facilities study of the existing vocational-technical schools is vital to show the condition of existing facilities, the cost of repairing them, the cost of expanding the existing facilities to conform to the tentative state plan, and a determination of utilization of all space. The new State Superintendent of Education now has underway a comprehensive study of the existing vocational-technical school facilities and equipment.

The facilities survey should provide the information necessary to determine the cost of repairing and expanding existing facilities as well as the cost of new facilities.

The Department of Education should gather information on facilities in other states in order to design several basic facilities on different scales and determine approximate costs for new and expanded facilities.

PROGRAMS AT CORRECTIONAL INSTITUTIONS

The state's vocational programs at the Angola, DeQuincy and St. Gabriel correctional institutions should be consolidated under a single coordinator at the state level.

Since the residency of inmates of correctional institutions and their probable destination upon release is normally not the locality of the correctional institution, a program planned to meet needs statewide would be more relevant than the present system which allows a vocational-technical school to determine the curricula it offers at a correctional institution. State direction would also afford more expertise in the particular needs of inmates. To avoid the stigma of receiving certificates of completion from a program associated with the correctional institutions, the State Department of Education could work out a cooperative arrangement with a regional or area school to

Table 41. Examples of Programs Proposed at Regional Vocational-Technical Institutes (75 Preparatory Programs)

Accounting
Agricultural Mechanics
Agricultural Production
Agricultural Supplies and Services
Air Conditioning and Refrigeration
Aircraft Mechanics
Apparel and Accessories
Appliance Repair
Auto Mechanics
Bank Teller
Barbering
Body and Fender Repair
Business Machine Maintenance
Business Management
Carpentry
Cashier
Cement and Concrete Finishers
Child Care
Clothing Production
Commercial Art
Commercial Cooking
Commercial Photography
Cosmetology
Counter and Fountain Service
Crane and Derrick Operators
Custodial Services
Data Processing
Dental Assistant
Diesel Mechanics
Drycleaning
Drafting
Electricity
Excavating and Grading
Finance and Credit
Fireman Training
Food Distribution
General Clerical and Secretarial
General Merchandising
Geriatric Nursing Assistant
Glazier
Graphic Arts
Horticulture
Hotel and Lodging
Industrial Electronics
Instrumentation
Insurance
Laundering
Law Enforcement Training
Line and Service Maintenance
Machine Tool Operation
Masonry
Medical Assistant
Medical Laboratory Assistant
Mental Health Assistant
Nursing Assistant
Optometrist Assistant
Painting
Plumbing and Pipefitting
Power Sewing
Practical Nursing
Radio and Television
Real Estate
Rehabilitation Assistant
Roofing
Saw Filing
Seamanship
Sheet Metal Fabrication
Shipping Clerk
Small Engine Repair
Surveying
Tool and Dye Making
Truck Driving
Upholstery
Waiter-Waitress
Welding

Table 42. Examples of Programs Proposed at Area Vocational-Technical Schools (15 Preparatory Programs)

- Accounting
- Air Conditioning and Refrigeration
- Auto Mechanics
- Body and Fender Repair
- Carpentry
- Clerical and Secretarial (General)
- Commercial Cooking
- Diesel Mechanics
- Drafting
- Machine Tool Operation
- Merchandising (General)
- Nursing Assistant
- Nursing (Practical)
- Radio and Television
- Welding

grant the certificates. Certificates are presently granted by the vocational-technical schools which have a branch at a correctional institution.

ADVISORY COMMITTEES

Advisory committees, composed of three employers, three employees and three public representatives, should be appointed for every regional and area vocational-technical school by the directors of these schools.

The advisory committees should assist in program planning, curriculum design, job placement and public relations.

FINANCING VOCATIONAL-TECHNICAL SCHOOLS

A formula should be devised for allocating funds to the vocational-technical schools, based on curricula and cost, as well as a projection of the number of students to be served. Since the vocational-technical schools do not have regular semesters or quarters and students frequently do not complete courses, the basis for counting students in the formula should be contact or clock hours.

Some vocational-technical courses may cost considerably more to teach than others because of such factors as class size, teacher-pupil ratio and equipment. If programs are funded on a composite average cost, there might be a tendency to expand low cost programs even though high cost programs would be more relevant to needs of students and the job market. To avoid this, the formula should take into consideration cost of individual programs and need.

Lack of operating funds is one of the major problems plaguing the schools in meeting needs of students who wish training. It has been said that it is easier for a high school graduate to gain admittance to the best public university in the state than the worst vocational-technical school. This is so mainly because the institutions of higher education have the funds, faculty and facilities to have a truly "open admissions" policy while the vocational-technical schools do not.

A formula has been devised to allocate funds to institutions of higher education, based on variations in cost and student credit hours. Such a formula is designed to provide equitable distribution of funds on the basis of need and to remove "politics" from the distribution of education money. A similar approach is needed for the vocational-technical schools.

The funds for the vocational-technical schools should be appropriated to the State Department of Education in a lump sum amount. The funds each school receives can then be distributed by the State Department of Education with the approval of the State Board of Education. This method would allow planning and implementing programs on a basis of statewide need rather than solely on local need.

The salary schedule for staff at the vocational-technical schools should be revised. Increases in faculty salaries should be based on performance and merit, instead of merely degrees earned and years of experience. Salaries of directors should reflect differing responsibilities and make allowances for size and complexity of schools. A new category should be established for salaries of directors of regional institutes.

Public school systems should be authorized to contract with vocational-technical schools for services not provided by the state which they feel are needed in their area. Such contracts should be approved by the state superintendent upon recommendation of his staff and by the State Board of Education. Such contracts should be included in regional and state planning for vocational-technical programs. Under such arrangements those local school systems which have funds available for vocational-technical education could finance additional services and gain an appropriate degree of control over them. At the same time, a coordinated, comprehensive and efficient program would be assured since such contract arrangements would eliminate unnecessary and overlapping vocational-technical programs that might be offered by local school boards.

STATEWIDE CURRICULA

Administrators and advisory committees should plan the programs that should be offered in their respective jurisdictions.

Those programs which are most in demand by both employers and by students should be offered. Manpower needs studies should be fully utilized in program planning.

Every curriculum offered in the state should be revised by the staff of the state department with the assistance of the state general and occupational advisory councils. The revision should include the following aspects.

Curricula and specifications for equipment should be standardized for all programs.

Only in this manner can quality programs be assured and employers and educators be able to evaluate students and programs.

Curricula should be updated and made more relevant to present employment needs.

Programs should be reduced to a minimal length of time and to only those matters which are essential.

Few students need or can afford the lengthy training presently given in many programs. Courses consisting of essentially the same material are taught in 3 months at some schools, while at other schools they are stretched into a year. Standardization of courses into the minimal time necessary should allow more students to finish their courses and more students to be taught. Since most students do not complete programs, the basic material needed should be taught as early in a program as possible. At the present time this procedure does not appear to be followed in some programs.

Curricula should be designed so that students can be certified for the skills they have learned prior to completion of an entire program.

Whenever a student acquires a marketable skill, he should receive specific certification for it. For example, a student enrolled in a program to be a secretary might be certified for lesser skills such as receptionist or typist prior to completing the entire program for a secretary. In this way, students who fail to complete courses will be certified for the employable skills they have acquired. Tennessee is one state that follows this procedure and has found it to be very successful.

Certification requirements should be standardized for all curricula.

This standardization should allow students to reenter programs and begin where they left off with a minimum of difficulty. Standardization throughout the system would ease the transfer from one school to another. It would also aid employers in judging abilities of job applicants.

Curricula should be revised in such a manner that programs at vocational-technical schools would complement programs at the secondary as well as collegiate levels and not be competitive or repetitive.

The transition from high school vocational programs into postsecondary vocational-technical programs should be planned. Programs at the postsecondary level should be flexible enough in their organization to accommodate students who have developed vocational knowledge and skills through another program or through employment. Colleges should be encouraged to allow students who have acquired knowledge and skills at vocational-technical schools to take examinations for credit toward a subbaccalaureate or a baccalaureate degree when courses of study are compatible.

Procedures should be established for the regular review of curricula by administrators and advisory councils in light of data on manpower needs and technological developments.

Procedures should be established for designing curricula for new programs whereby state control of content and quality would be assured.

Curricula and materials from other states should be surveyed and used whenever possible.

Many state education departments and education research organizations have developed curricula covering a vast variety of occupations. Some material may need adaptation, but most of it should be applicable to Louisiana's needs without a great deal of expense or effort.

The responsibility for preparation of curricula should be removed from the jurisdiction of the Curriculum Development Laboratory at Natchitoches, and its name should reflect this change. The Curriculum Development Laboratory at Natchitoches should be responsible only for reproduction and storage of curricula already designed and approved. Funds for the lab should be removed from the budget of the Natchitoches Trade School and placed in the budget of the State Department of Education. The state department should investigate the possibility of moving the lab to its main department

offices in Baton Rouge and converting it to a laboratory with responsibility for developing curricula. At one time, the laboratory did have such responsibility.

STUDENT SERVICES

The services provided students at vocational-technical schools are, for the most part, inadequate and inequitable among the schools and are far less than those provided students attending high school and college.

ADMISSION AND FEES: **The vocational-technical schools should have a true policy of open admissions, with students tested and guided into occupations most appropriate to them. Except for programs in which there are standards set by licensing agencies, students should be allowed to enter any program they wish.**

If facilities are expanded, there should be no reason not to have open admissions in the vocational-technical schools as well as in the programs in the same manner as in the publicly supported colleges and universities.

A nominal charge should be assessed students entering vocational-technical schools, with exemptions for secondary students and the economically disadvantaged. This fee should be uniform among schools.

These student charges would help finance the operating costs of the program and curb disinterested students from enrolling and dropping out shortly thereafter.

Out-of-state tuition charges should be established on the basis of per pupil costs, and should be assessed until such time as the courts rule them invalid.

Special program fees should be standardized for each program at a low level, and the same amount should be charged at each school.

At present vocational-technical schools do not charge students tuition, but they do charge fees which vary tremendously in amount; some schools do not charge for books and supplies while others charge a great deal.

GUIDANCE: **The number of guidance counselors for vocational-technical schools should be placed on a formula basis and each school should have at least one guidance counselor.**

Job placement services should be available to all students attending vocational-technical schools.

Special programs to bring employers into the schools should be established to advise students and interview them for jobs.

Data on all students with specified skills should be compiled through a statewide computer system, and such data should be made available to employers.

DIAGNOSTIC CENTERS: **Special education diagnostic centers should be expanded at state university campuses to provide, on a contract basis, occupational and other diagnostic services such as testing, evaluation and counseling for the wide range of agencies currently attempting to provide these services. These centers should be staffed with guidance counselors and psychologists to evaluate and counsel on the full range of personality characteristics, skills, preferences and abilities.**

The universities, colleges, vocational-technical schools, secondary schools, vocational rehabilitation institutions, employment security offices, youth opportunity centers, community action agencies, correctional institutions and many other state, local and private agencies are presently attempting to provide occupational diagnostic services for their specialized clientele groups. A diagnostic center should be structured to deal with all types of people, avoiding the present segmented concern for special categories which often, of itself, tends toward a bias in the type of job training and placement offered. In most of these agencies the counseling and testing services are quite limited as to level of professionalism in evaluation and career guidance. Utilizing a career information system, the center could assist the individual to discover his optimum career potential and aid him in making use of the available training programs and facilities to meet educational deficiencies and prepare him for employment.

The center could also provide services to secondary school systems, particularly in those schools which might not be large enough to justify the full range of in-house guidance and counseling services. Certain types of testing and evaluation work and even specialized counseling might be provided by contract between the center and the local school systems.

The centers would not eliminate the need for resident counseling staff in the vocational-technical schools or in the public school system. The centers would provide highly sophisticated initial and periodic testing and evaluation while in-house counseling staffs would provide continuous day-to-day assistance to students. In addition to serving various institutional needs, the center could provide diagnostic services, on a fee basis, to any individual wishing to analyze his career potential and opportunities.

FINANCIAL AID: **All students wishing to attend vocational-technical schools who require financial assistance should receive the aid they need.** This can be achieved through:

1. Expanded use of the state student loan program by requiring all directors of the vocational-technical schools to sign the necessary agreement, stipulating that all directors inform their students of the availability of these loans, and encouraging participating banks and other financial institutions to grant these loans to vocational students.

2. Encouraging business and industry to provide scholarships as well as part-time work for students.

3. Increasing state funds used for matching federal funds for the various federal financial aid programs.

TRANSPORTATION: **Public transportation should be provided students attending vocational-technical schools from within their designated areas. A standard policy should be established for all vocational-technical schools as well as institutions of higher education under the State Board of Education. A nominal charge should be assessed students who use the bus transportation and are able to pay, not only for transporting students to the vocational-technical schools but to colleges as well.**

Transportation is presently being provided students attending many college campuses; vocational-technical students need and deserve the same service. Many of the vocational-technical schools do not provide transportation, and it is very limited at those schools that do.

AUXILIARY FACILITIES: **All vocational-technical schools should have the auxiliary facilities of cafeterias, lounges, libraries and office space for faculty and guidance personnel.**

Most schools do not have auxiliary facilities. Cafeterias are needed not only to provide students a place to eat but also to provide training in one of the largest occupational areas—food service. Meeting places and libraries can be sources of information and communication which complement skill training experience. Adequate space for faculty and guidance personnel to meet with students and keep their records is also needed. However, these facilities should be given second priority to the more immediate need for expanded classroom and laboratory facilities.

Dormitories should not be built at the vocational-technical schools.

None of the vocational-technical schools presently has dormitories and no dormitories should be needed if schools are within commuting distance of everyone. The number of students who must leave their home towns for a special program and who might want to live in dormitories would be too few to justify the expense of building and maintaining these facilities.

INSTITUTIONS OF HIGHER EDUCATION

Louisiana's public institutions of higher education should be assigned the role of providing technical and paraprofessional programs, especially those of 2 years' duration leading to an associate degree.

The institutions of higher education must train new elementary and secondary teachers and retrain present ones toward the career education concept. They also have the responsibility for training teachers in postsecondary vocational and technical courses as well as guidance counselors.

They should continue their traditional role of providing professional and liberal arts education at the baccalaureate and graduate levels.

The curriculum of the technical and paraprofessional programs should be reviewed by the State Department of Education as well as the Coordinating Council for Higher Education to insure that they are truly college-level programs and not just different names for programs already taught or which should be taught in the vocational-technical schools.

In approving new degree programs at the institutions of higher education, emphasis should be on associate degree programs in technical and paraprofessional fields that are high level in such areas as engineering, health, business, social welfare and education. Accreditation for these programs should be the customary procedure.

Traditionally, colleges and universities have been viewed as the only means of entering professions, with graduate training frequently required for entry into certain jobs as well as for advancement.

However, our technological society is now demanding an accelerated upgrading of certain jobs, requiring higher education but below the baccalaureate level. It is in this area that Louisiana's institutions of higher education are ideally suited to fill a void in Louisiana's educational system.

Dr. Martin D. Woodin, president of LSU, recently proposed that the LSU System take steps to develop a comprehensive career training program, and that LSU play a major role in such a program. His statement was unanimously approved by the LSU Board, and Dr. Woodin subsequently established a task force of LSU officials.

> We have provided reasonably well for those who choose to seek a baccalaureate degree. We have provided reasonably well for those who strive for even higher degrees, at the master's and doctoral levels. But for the high school graduate who wishes to base his career on training in one of a growing number of sub-professional areas, further educational opportunity is indeed limited.
>
> This educational gap must be closed. Educational opportunity should be extended to *every* youngster, regardless of whether he intends to become the world's greatest physicist or its best plumber. As a state university and land-grant institution, the LSU System should provide leadership and play a vital role in this undertaking.
>
> . . . I propose that the LSU System take steps to develop a comprehensive career training program. With the approval of the Board, I plan to appoint a Task Force to study this matter in detail and to devise a kind of master plan for career education. . . .
>
> The need for a comprehensive program of career education in Louisiana is clear. As the capstone of higher education in this state, LSU should play a major role in developing such a program. . . .
>
> Actually, we are confronted with a golden opportunity for all Louisiana. Properly developed, realistically planned and adequately supported, this program can exert a substantial impact on the future of our state. It will upgrade individual skills and expand educational opportunity. It will uplift the sights of the individual. It will add manpower to the state's labor force and stimulate the economy. And, finally, it will elevate to the highest levels the human resources of our state.
>
> The methods and techniques that will be utilized in such a program will not necessarily be in the traditional mold of higher education. Clearly, we must be innovative, and we shall. But there is no intention to replace or dilute a single existing academic program. The objective is to develop new approaches to newly-recognized needs.

TYPES OF ASSOCIATE DEGREES

The type of associate degrees that might be offered at state colleges and universities are shown in Table 43.

Table 43. Examples of Proposed College Associate Degree Programs
(50 Preparatory Programs)

*Accounting
Advertising Services
*Aeronautical Technology
*Agricultural Production
Agricultural Supplies and Services
*Air Conditioning and Refrigeration Technology
Apparel and Accessories
*Architectural Technology
*Automotive Technology
*Business Management
*Chemical Technology
*Child Care and Development
Civil Technology
Clothing and Textiles
*Computer Technology
Data Processing Technology
*Dental Hygiene
Dental Laboratory Technology
*Electrical Technology
*Electronic Technology
Environmental Health Technology
Fire Control Technology
Food Distribution
*Food Service Management
Forestry
General Merchandising
Geriatric Health Technology
*Horticulture
Hotel and Lodging
Industrial Marketing
Industrial Technology
Institutional and Home Management
*Instrumentation Technology
Insurance
*Law Enforcement Technology
*Machine and Tool Design
Mechanical Technology
*Medical Laboratory Technology
Mental Health Technology
*Nursing
*Occupational Therapy
Oceanographic Technology
Physical Therapy
Radiologic Technology
Real Estate
*Secretarial
*Surgical Technology
Transportation
Water and Waste Technology
Wood Products Technology

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*Already instituted or approved

COMMUNITY COLLEGE SYSTEM NOT NEEDED

Louisiana should utilize its present colleges and universities rather than consider establishing a system of community or junior colleges.

Present law (R. S. 17:1380-1382) authorizing parish school boards, except Orleans, to establish junior colleges within their respective parishes should be repealed.

There are many reasons why Louisiana should use its present institutions of higher education for paraprofessional and technical training and not establish junior or community colleges:

1. The decline in the number of births in Louisiana in recent years means that colleges will no longer be faced with a prospect of a flood of students within the foreseeable future but, rather, will experience only a moderate increase. The Louisiana Coordinating Council for Higher Education has projected that within the 14-year period 1970-71 to 1985-86, enrollments at Louisiana's public institutions of higher education will increase by only 7.4 percent; enrollments at private institutions are projected to decrease by 4.9 percent; and the overall collegiate enrollment is projected to grow by only 5.5 percent. This is in sharp contrast to the 17 percent increase in one year alone—1964, and a 12.5 percent growth in 1965. The number going to college in the future could be further minimized if programs of vocational-technical schools are expanded to offer an acceptable alternative.

Since colleges are no longer faced with the prospect of a college boom, they will have facilities and faculty available to expand their curricula to students who might not wish to attend college to pursue a baccalaureate degree. Of course, changes in enrollments among campuses will vary. Some will grow and may need new facilities while others may decline and leave unused facilities.

The modest projection of future college enrollments also indicates that there will be no need to establish new campuses in Louisiana offering traditional academic programs within the foreseeable future.

2. Our society has a great need for persons with technical and paraprofessional training, while at the present time many with college degrees are having difficulty finding employment. The most practical and least expensive way to meet this need would be to use Louisiana's numerous college and university campuses rather than create 2-year colleges. Certain administrative costs of a college or university should remain fixed, regardless of the programs offered on campus. Moreover, if existing faculty can train professionals, they should also have the capability to train technical and paraprofessional persons to assist the professionals.

3. Louisiana has a tradition of allowing 2-year campuses to expand into 4-year campuses. Many of the present universities began as 2-year campuses and were elevated to 4-year institutions; graduate programs were then added, and finally they were renamed universities. Louisiana is one of the few states that provides higher education primarily through senior institutions. The latest public campus to be

elevated from a 2-year to a 4-year institution is LSU-Shreveport; this change was approved in 1972.

4. Despite the growth in junior colleges in other states in recent years, colleges and universities, faced with a halt in rising enrollments, are seeking new areas for expansion by initiating subbaccalaureate programs.

5. There would appear to be no logical reason why associate degrees need be offered at 2-year campuses when Louisiana has an abundance of senior colleges and universities that will have available facilities and staff.

6. The characteristics usually cited for junior colleges are that they be open-door, within commuting distance of the populace they serve, low cost and multipurpose.

Louisiana's senior colleges and universities already have these characteristics to a large extent. They have an open admission policy for all Louisiana high school graduates, and the master plan formulated by the Louisiana Coordinating Council for Higher Education has recommended that this policy continue.

There are 16 public campuses, including branches of LSU and Southern, located so that most potential students throughout the state are within a 40-mile commuting radius. Most campuses have dormitories for noncommuting students.

Student costs are relatively low at Louisiana's colleges compared to most other states. There is a state-administered student loan program, as well as scholarships and work programs to assist needy students.

There has been a void in offering subbaccalaureate programs in technical and paraprofessional programs, but many campuses are now offering and applying for such programs to make them more multipurpose. Vocational-technical schools should complement institutions of higher education by providing other programs that might otherwise be offered in junior colleges.

7. Louisiana's present colleges and universities have many aspects that should be more attractive to students than a junior college. Most campuses have dormitories, student union buildings, infirmaries, stadiums, dining halls, athletic programs and other extracurricula activities which are usually lacking at a junior college.

Senior colleges and universities also have a status not associated with junior colleges. Hence, associate degrees awarded at such institutions can appeal to a student who would like a degree from a university but cannot achieve a baccalaureate for one reason or another.

8. Subbaccalaureate programs at colleges and universities would allow such institutions to recoup some of their dropouts by steering them into an alternate course.

9. Louisiana simply does not have the money to add another system to its institutions of higher education.

10. Louisiana's institutions of higher education are eligible for federal funding of occupational education under the 1972 federal education act even though they are not junior colleges.

MANPOWER PROGRAMS

Existing federal manpower programs should be merged into the vocational-technical schools where feasible.

Other manpower programs should be encouraged to "buy-in" for various services which the vocational-technical schools could offer on a contract basis.

A closer coordination or even combination of the Advisory Council for Vocational and Technical Education and the Manpower Advisory Council should be effected to provide better planning between manpower and vocational-technical training programs.

The manpower programs in Louisiana are largely a creature of federal legislation. Reform of federal legislation will be necessary before an adequately planned and coordinated system can be created and integrated with the proposed state system for career education.

Although state initiative alone will not be sufficient to remedy the problems of the manpower programs, the state itself can begin to take some steps. Three manpower programs—MDTA (institutional), CEP and WIN—use separate training facilities, largely through lease arrangements, and are operating vocational programs which parallel existing training at the vocational-technical schools. The resulting duplication is wasteful, but more harmful is the segregation of the disadvantaged from the "mainstream" in which the programs have been designed to secure their participation. The State Department of Education could easily alter its policy of using separate training facilities for MDTA training and vocational-technical training.

As the vocational-technical schools develop adequate facilities and services including testing, guidance, counseling, career information systems and basic education, other manpower programs could contract with the vocational-technical schools for these services.

A growing number of states are doing some restructuring on their own to coordinate vocational education and manpower programs. For example, in Arizona the governor combined the state's vocational education advisory council and the manpower advisory council into a single unit called the Human Resources Advisory Council. In Oklahoma, the two councils have a single executive committee, and their two executive directors share office space and work cooperatively.

In Louisiana these two councils have operated independently and in a largely mechanical manner to process and manufacture reports required by federal grant provisions. These reports have been highly inadequate for the purposes they were meant to serve.

With the coordination or combination of the two councils, a data system centered in the Department of Education could be designed to serve both functions.

APPRENTICESHIP PROGRAMS

The apprenticeship programs and enrollments should continue to be reported to the State Department of Education. This information should be included in the overall plan for career education in Louisiana.

This information is essential in order to assure that no overlap and duplication of effort exists between the apprentice programs and the programs in the vocational-technical schools.

PRIVATE AND PROPRIETARY SCHOOLS

Data on private schools should be included in the total state plan.

A central list of all private vocational-technical schools operating in the state should be compiled by staff of the State Department of Education, and it should be kept current to reflect new schools and schools that have closed.

Private schools should be required to report, at least annually, on their enrollments, completions and placements by occupational categories.

Louisiana should consider contracting with private schools for needed programs which are not offered in public schools if it is determined that the cost would be less.

Private schools play an important role in the state's total vocational-technical educational program, but the extent of this role is unknown in Louisiana because of lack of data. These schools should be considered in the total resources available for developing comprehensive occupational training programs within the state. At least 20 states license private schools in order to assure quality and protect students from disreputable schools. Louisiana joined these licensing states through Act 311 of 1972 which provides for an Advisory Commission on Proprietary Schools within the State Department of Education to license private and proprietary vocational-technical schools. This licensing should facilitate an inventory of such schools and their programs.

INDUSTRY'S ROLE

The role of business and industry in the state's career education program should be expanded into a meaningful and permanent relationship.

The State Department of Education should inventory all industry programs and request that industries report annually on the number of employees it trains, the level of training, and fields in which training was given. Such data should be included in the state plan.

The State Department of Education should survey industry to find out ways in which the state's public programs could assist industry in meeting its needs. The survey should include industry hiring practices, attitudes toward public programs, and voids in training areas that public programs might fill. Data compiled by PAR indicates that small firms, in particular, seldom finance their own training programs.

Industry should be encouraged to expand cooperative work programs for high school and postsecondary students in which on-the-job training is combined with classroom instruction. Such programs should encompass all students training for a career, not merely the poor, the uneducated and the unemployed. Work experience has proven to be valuable as a methodology in education and training.

Business and industry should lend their support to designing curricula that are up-to-date and practical. They should inform educators of equipment needs and provide assistance in job placement.

Employers should be brought into the schools for discussions with students on career potentials and job requirements. At the

postsecondary level, employers should be encouraged to lend their top employees to assist in instruction.

Employers should be encouraged to secure their new employees through school placement offices to emphasize the relevance of job training and help match educational programs to job needs.

SPECIAL FUND FOR NEW EMPLOYEES

The Legislature should increase the amount appropriated to the special fund for training employees for new and expanding industries. Actions by the 1972 session in increasing funds and establishing a Job Reserve Fund were steps in the right direction.

The use of the fund should be expanded to include training of employees for various types of industry.

The vocational-technical schools should be used where feasible to train employees for new jobs.

The funds should continue to be appropriated to the Department of Education and expenditures approved by the governor and executive director of the Department of Commerce and Industry.

The fund has been limited primarily to training employees for garment plants. Moreover, most of the training was limited primarily to on-the-job training by employers.

It is necessary to have the financial capability to provide immediate training, tailor-made to meet needs of a single new or expanding industry. Appropriations to the vocational-technical schools have been insufficient to meet such requirements. In addition, the need for immediate training funds may arise during the year after budgets are approved. It is often necessary to take quick action in order to gain a new industry; industry wants positive and immediate assurance that a needed training program will be undertaken.

A special administrative unit should be established in the Department of Education to work cooperatively with the Department of Commerce and Industry.

South Carolina has a program in which an administrative unit analyzes the needs of proposed plants for skilled workers, studies the potential supply of trainable persons and outlines a training program to supply the needed employees. If a company decides to locate in a community, state educational resources are mobilized, space is secured for the required training, equipment is moved from a central warehouse and installed for temporary services, and instructional staff is assigned and trainees are recruited. Louisiana should initiate a similar program, for it would provide another real incentive in attracting industry and thus provide needed jobs in the state.

CONCLUSION

Louisiana is wealthy in terms of natural resources, but poor in human resources. While the 12 southeastern states have been the fastest growing region of the country in terms of personal income for the past two decades, Louisiana has been the slowest growing among its sister states. Louisiana has also lagged behind other states in the educational attainment of its adult population.

Perhaps the greatest barrier to the economic progress of this state and the economic well being of its people is the lack of skilled labor. A 1971 PAR study, *Industry Rates Louisiana*, found that lack of trained manpower headed the list of factors impeding Louisiana's industrial growth. In fact, industry ranked labor-related problems, many of them also educationally-related, as seven of 10 factors most harmful to the state.

If Louisiana is to catch up with other states, it must make significant changes in its educational system which is not now geared to meeting the needs of an increasingly urban and technological society. This state can ill afford to continue an educational system that offers few opportunities to its youth except to quit school or go to college. It has resulted in a far too great number of high school dropouts and an oversupply of college graduates in some fields.

Louisiana's programs for vocational-technical education have been poorly planned and are uncoordinated and underfinanced. There is a lack of basic information and communication required for planning a good system. Far too many are enrolled in home economics and agriculture which are least related to paid employment, while too few are being trained to meet labor market needs.

The plan proposed in this study is a first step toward the solution of one of Louisiana's most critical problems—the need for a comprehensive, statewide system of vocational-technical and career education.

FOOTNOTES

[1] National Advisory Council on Vocational Education, *Fourth Report* (Washington, D. C.: January 16, 1971), 3.

[2] U. S. Congress, House, Committee on Education and Labor, General Subcommittee on Education, *Reports on the Implementation of the Vocational Education Amendments of 1968* (Washington, D. C.: U. S. Government Printing Office, 1971), 476.

[3] Grant Venn, *Man, Education and Manpower* (Washington, D. C.: American Association of School Administrators, 1970), 264-265.

[4] Wilson Riles, "California and Career Education," *Thrust for Education Leadership*, I (April 1972), 4.

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APPENDIX

Methodology for Projecting Louisiana's Manpower Needs

This study essentially followed the methodology designed by the U. S. Bureau of Labor Statistics (BLS) for use by local analysts in preparing state and area manpower projections.[1]

The method used for the industry employment projections was a "multi-variable regression analysis model." The occupational employment projections were made by applying the national industry-occupational matrices (ratios) for 1960, 1970 and 1980 to corresponding state detailed industry employment data.

INDUSTRY PROJECTIONS

The industry employment projections were based on historical data for the years 1958 through 1968 prepared by the Louisiana Department of Employment Security. The dependent variable used in the "regression analysis model" was the estimated Louisiana wage and salary employment by industry. The two independent variables used were national employment by industry and time.

A regression analysis equation for each of the 116 detailed industries was generated by computer program, and the projected wage and salaried employment was derived for each industry for 1980. Wage and salary employment estimates were made for each industry for 1970 using employment security data.

The mathematically derived industry employment projections were not accepted on face value. The projection for each detailed industry was reviewed and revised in accordance with evaluations of state labor market analysts and other persons familiar with the broad economic trends of the state.

The nonagricultural wage and salary industry employment data for 1960, 1970 and 1980 were inflated to total employment. The 1960 ratios were used to distribute self-employed and unpaid family workers by industry. Government employment was also distributed to the appropriate private industry totals where governmental activities, such as construction and manufacturing, were conducted. Public administration employment includes only those government workers who are engaged in activities which are unique to government.

To maintain consistency with the occupational data presented, industry employment figures have been reported on a U. S. census basis rather than as annual averages. The 1970 industry figures are actual census data. The 1980 industry projections reported were derived by applying the 1970-80 expansion rates determined from the estimated and projected 1970 and 1980 total employment figures to the actual 1970 data.

OCCUPATIONAL PROJECTIONS

The U. S. Bureau of Labor Statistics' industry-occupational matrices (ratios) for 1960, 1970 and 1980 were applied to the total employment figures for each detailed industry to establish an occupational distribution for each detailed industry. Total employment for the 160 specific occupations was obtained by summing the occupational employment figures of all detailed industries.

Prior to publication of this report, the 1970 census publication, *General Social and Economic Characteristics for Louisiana*, became available. Instead of publishing the detailed occupational data as derived above, this study has used the 1970 census data as the base for projecting 1980 demands. The general characteristics publication classifies employment by much broader occupational categories than does the detailed characteristics report which was released in late 1972. Therefore, only 27 separate occupational groups are presented. The occupational employment data for 1960 is the actual census data adjusted to the 16 years of age and older concept used in the 1970 census; the number of those not reporting an occupation was distributed on a pro rata basis. Occupational employment for 1970 is the actual 1970 census data. Projected 1980 occupational employment was derived by collapsing the detailed matrix projections to the census categories and applying the expansion rate between 1970 and 1980 for each category to the 1970 census figures.

REPLACEMENT DEMAND

Several methods are available for estimating replacement demands caused by deaths and retirements. This study incorporates the simplest one as outlined in the BLS publication, *Tomorrow's Manpower Needs.*[2] The proportion of male and female workers for each occupational category was estimated using census data. The national average replacement rates for men and women workers, by occupation, were applied to the Louisiana occupational employment estimates to derive total replacement demand by occupation.

PROJECTION METHODS AND DEVELOPMENTS

The projections in this report are the first in Louisiana to be based on the full utilization of the BLS matrix method. The results of this method reflect both the trends in the state's industry expansion and structure and the changes in the occupational structure within those industries, based on a national model. This study is also the first projection in the state to make use of the recently updated BLS matrices. Now that the detailed census characteristics for the state are available, the program should be rerun to derive projections for the detailed occupations.

One of the problems with the method is that projections are derived from a national industry-occupation matrix. The BLS has, however, recently announced plans to develop a separate set of matrices for Louisiana which should be available in 1973. Another federal program, the Occupational Employment Statistics program, has been undertaken in a number of other states. In this program, industry surveys are made to ascertain more precisely the occupational structure. Louisiana might already have been included among these states had sufficient interest been shown.

Projection methods and tools are continually being improved, and it is imperative that those responsible for educational planning demand that the most sophisticated techniques available be used and incorporate the results of these projections in the planning process.

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[1] The methodology is incorporated in a series of publications and guidelines issued by the U. S. Bureau of Labor Statistics beginning with *Tomorrow's Manpower Needs*, BLS Bulletin 1606, (Washington, D. C.: U. S. Government Printing Office, February 1969) and its revisions and supplements.

[2] *Ibid.*